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The Department's 50th anniversary celebration

# News from the Head of Department

Richard Eglese

As I write this, I can start to see the end of my second spell as Head of Department. In August 2014 I am handing over to Matthias Ehrgott who will be taking over the baton.

During the past twelve months, one highlight was being able to celebrate, at the end of September 2013, the Department's 50th anniversary with alumni, staff members past and present and other distinguished guests. The event marked the date of 1 October 1963 when Pat Rivett took up his chair at Lancaster University, the first Head of the Department of Operational Research. There will be more on this elsewhere in the Newsletter.

This year we have celebrated a number of successes and recognitions, including:

- **Lancaster's Centre for Doctoral Training in Statistics and OR (STOR-i)** continues with new investment, funded by the Engineering & Physical Sciences Research Council (EPSRC) in partnership with industry. Kevin Glazebrook continues to lead STOR-i, alongside colleagues in the Department and Maths & Statistics.
- **Kevin Glazebrook** was also presented with the Beale Medal, a lifetime achievement award bestowed by the OR Society. The

award recognises his significant influence on the support and development of OR in the UK and internationally. More information about this can be found on p24.

- **David Brown**, Professor in IS and Director of the Lancaster China Centre, is part of the successful £5.1m Catalyst project funded by HEFCE, with further funding from Guangdong Provincial Science and Technology Office. The project started in January 2014 and will provide UK companies with a bespoke platform to develop an international collaborative R&D and commercialisation project with a Chinese partner. It aims to strengthen the UK's position in global export markets, create 240 jobs, help up to 400 domestic businesses and boost the economy by £40m.
- The Student Led Teaching Awards Panel awarded **Adam Hindle** the Outstanding Postgraduate Teacher Award this year. This award is presented based on nominations from students. Eric Woodcock was also nominated by students for an award in the Outstanding Undergraduate Teacher category.

Since the last Newsletter, the following have joined as new colleagues in the Department:

- **Burak Boyaci**, Development Lecturer, whose work complements that of Konstantinos Zografos, in areas of transportation and OR.
- **Vikram Dokka**, Development Lecturer, whose research interests span combinatorial optimization, integer programming, applications of OR and approximation algorithms for NP-hard problems.
- **Forough Karimi-Alagheband**, Lecturer, who works within the Information Systems group on topics around IT sourcing and ERP systems.



- **Monideepa Tarafdar**, Professor in Information Systems – Monideepa joins us from the States where she was Professor of Information Systems at the University of Toledo. She holds an undergraduate degree in physics and a graduate degree in telecommunications and electronics (Radiophysics) engineering from University of Calcutta, and a doctorate in management (specializations in Information Systems and Strategic Management) from Indian Institute of Management, Calcutta. Prior to getting her doctorate, she worked in engineering functions at the Indian subsidiaries of AT&T (Lucent) and Philips. Monideepa's work focuses on the broad ambit of how information technologies (IT) and systems impact individuals and organizations.
- **Richard Williams**, Management & Business Development Fellow, is developing research on complex systems analysis applied to project management software and joins following PhD study in computational biology and consultancy with Oracle Corp.
- **Casey Wilson**, Teaching Fellow, has joined us from the Management and Development Division of the Management School. She is currently Director of the MSc in e-Business and Innovation.
- In addition we welcome **Professor Barry Nelson** as a Distinguished Visiting Scholar. Barry is based at Northwestern University in the USA and is a leading expert in simulation and related matters.

We have also said farewell to the following colleagues during the year:

- **Mike Chiasson**, Professor of Information Systems, has returned to Canada to a post at University of British Columbia, Okanagan, though he will retain links with the Department as a Visiting Professor.

- **Xinan Yang** was working as a post-doctoral researcher on the LANCS-Initiative and has now moved to take up a post as Lecturer in Operational Research in the Department of Mathematical Sciences in the University of Essex.
- **Devon Barrow** has been working in the Lancaster Forecasting Centre as a post-doctoral researcher. He is leaving to become a Lecturer at Coventry University.
- **The EPSRC** sponsored LANCS-Initiative project came to an end this year and so we are also saying farewell to Rosemary Hindley who has been the administrator for the project. Rosemary leaves us to take up a similar role for the new Catalyst project mentioned earlier.

We are currently recruiting to some new academic posts and we shall bring you news of those appointments in next year's Skein Newsletter.

Martin Spring of our Operations Management group was promoted to Professor during 2013. In 2008 he was awarded a Services Fellowship by AIM (Advanced Institute for Management Research), focussing on Business Models for Business-to-Business Services. Following that, Martin has recently carried out a study on emerging Business Models for manufacturing as part of the UK Government Department of Business, Innovation and Skills (BIS) Foresight project on The Future of Manufacturing.

As usual, there is not enough space to do justice to all the many activities that take place under the ambit of the Department. I hope that you will visit the Department's website which contains more information about many of our activities.



Monideepa Tarafdar



Richard Williams



Casey Wilson



Barry Nelson

# Department's 50th anniversary



In writing my final piece as Head of Department for the Skein Newsletter, I would like to thank my colleagues for their support and particularly to our admin staff team of Jackie Hughes, Gay Bentinck, Lindsay Newby, Helena Greenwood and Jackie Clifton.

**Richard Eglese**  
Head of Department

## Research & Enterprise Activity

At the end of 2013, the University submitted its return to the UK Research Excellence Framework (REF), which informs HEFCE research funding to universities in the UK. Impact has become a key metric within REF, requiring testimonials from industry. We were able to contribute four specific case studies to the Management School submission, outlining positive impact in the following areas:

- Workload control (leads: Linda Hendry & Mark Stevenson)
- Sports scheduling (lead: Mike Wright)
- Lancaster Centre for Forecasting (leads: Sven Crone & Robert Fildes)
- Soft Systems Methodology to address business problems (lead: Mike Pidd & Emeritus Professor Peter Checkland).

## Undergraduate Programmes

Our new major degree programme, BSc Business Analytics & Consultancy (BAC), admitted its first students in October 2013. Alongside our joint major programme,

BSc Management Mathematics, 41 new first years joined us. The BAC programme includes Industrial placement and Study Abroad variants. The greater proportion of our total undergraduate teaching, however, continues in delivering Management Science, OR, Information Systems, Operations and Project Management modules across undergraduate programmes of study in the Management School.

## Masters Programmes

In the current study year, we have 59 full-time Masters students with us, down from the high water-mark of 76 students recruited in 2012.

Masters summer projects continue to be an important activity in the Department. Several of the projects have had considerable impact. For example, one project concerned a detailed analysis of a variety of NHS initiatives to reduce emergency hospital admissions, while another required the development of a spares strategy for United Utilities to help them deal effectively and efficiently with weak spots in their water network.

**We celebrated 50 years of Operational Research at Lancaster University with over 100 alumni, staff and guests on Friday 27th September 2013. It was great to see so many alumni back, and it was clear from their reactions that they had enjoyed the day.**

They greatly enjoyed anecdotes and memories of particular people and places, as well as the shared experiences of the rain, the weather and sheep! The following pages contain some of the material that was presented on that day, and reflections from alumni. The talks are available for viewing at <http://www.lancaster.ac.uk/lums/management-science/video-gallery/>

The programme for the day was in three parts. In the morning the University archivist, Marion McClintock, talked about how the University had come to Lancaster and Graham Rand talked about how OR had come to the University. He showed a short clip of Pat Rivett on prime time BBC television from October 1963, and played part of a recording of an interview with Pat describing how he came to Lancaster. The morning ended with some reminiscences by Peter Checkland.



After lunch, Head of Department Richard Eglese described developments in the Department over the 50 years, illustrating his talk with a memorable (for some) pop song from each decade, before specific talks on teaching (Linda Hendry), research (Mike Pidd), and external links (John Ranyard). Some concluding remarks were given by Geoff Royston (former external examiner and President of the Operational Research Society).



John Ranyard

In the final session former students, one from each decade, talked about what it was like for them. The five alumni speakers travelled from Canada, New Zealand, Scotland and also England to be with us. Their interesting stories included sharing perspectives from Peru and India. The day was wrapped up by Alan Mercer, a founding member of the department.



Peter Checkland

In the evening invited guests enjoyed a dinner, at which it was a pleasure to welcome Pam Simpson, Mike Simpson's widow. Mike was the third founding member of the Department, alongside Pat Rivett and Alan Mercer.

It was a very happy day, with many taking this wonderful opportunity to reminisce and reconnect. Some photographs of the event illustrate the articles.

# History of the Department

Richard Eglese



When Graham Rand asked me to give a 20 minute talk on the history of the Department as part of our 50th Anniversary celebration, I soon realised that this was an impossible task. But having rashly agreed to do it, I decided that all I could do would be to give a highly personal recollection and hope that, together with other contributions on the day, a more rounded picture would emerge. You can see and hear a recording of the talk as the first one in Session 2 through this link: <http://www.lancaster.ac.uk/lums/management-science/news/50-years-of-or>

Having been given the after lunch spot, I had also decided that including some music representative of the last five decades would help to keep my audience awake. However, I forgot that as the session was being recorded for your viewing pleasure, this would mean that the music and some of the images would not be able to be provided in the recording for copyright reasons. So you will find that my talk is punctured by sections of silence (when the audience was in fact bopping along to a pop song of the appropriate decade), but you can just jump forward through those bits.

So if you want to know:

- What has happened to the building that originally housed the University's first mainframe computer?
- What were the staff doing when I first visited the Department before starting as a student?
- What shocked the Department in 1983?
- How the Department got its name?
- What were some of the key developments in the 21st century?

...then please go to the website and see my presentation.

You will also find a few photos of me through the decades so you can see my ageing process.

When I was putting together my presentation, I was struck by the fact that the history of the Department is, of course, a history of people: the staff (academic and support) and the students that have been involved over the years. It is the personal contributions of many people that have made the Department a lively, challenging and friendly place to work and study. From the beginning, the teaching and research has always been geared to engaging with the problems and situations faced in the outside world and making a positive difference. My hope is that this outlook and endeavour will continue into the future.

# 50 years of teaching Management Science at Lancaster University

Linda Hendry

It was a great pleasure to reminisce on 50 years of teaching within the department at our 50th Anniversary celebrations, not least because it brought back many fond memories of my own experience as both an UG and then a PhD student here back in the 1980's. These memories included taking an 8 hour exam – I wasn't the only one in the audience who could remember that particular experience! It was also a good opportunity to think about what makes the department special, and what innovative approaches to teaching we have adopted over the years.

Starting with the 'facts', my talk began by looking at the number of students who had passed through the department as UG majors or on departmental MSc/PhD programmes. (I use the word 'facts' loosely here, as the data from the early years is not as clean as the more recent data, so some rounding seemed appropriate)! In rough figures then, we have seen a total of 4,700 students graduate – 1,800 on UG programmes; 2,500 at masters level and 400 PhD students. In addition, we've been involved in lots of Management School Programmes, including the BBA, BSc Business Studies; MSc in E-Business; PhD in Management and so on.



Also on the facts, we looked at how our degree titles had evolved over the years. Early examples included the MA/MSc in Operational Research (OR) (1964); MA Systems (1970); BSc Economics and OR (1966); with the single UG major in Management Science coming into play in the early 1970's. Whilst the original MSc in OR is still offered, our programmes have now evolved to include both the MSc in Logistics & Supply Chain Management and the MSc in Management Science & Marketing Analytics, both first introduced in 2007. More programmes have come and gone at UG level – with our newest single major in Business Analytics & Consultancy introduced as recently as 2013.

Moving onto our particular teaching style and focus in our teaching, words that came to mind included: application to industry; consultancy skills; linear programming; soft systems

# Thoughts from the day 1

Keith Aldred (MA, 1966, PhD, 1969)



Keith Aldred – then



Alan Mercer –  
“Spellbinding!”

Last September marked 48 years since I arrived at Lancaster to start an MA in Operational Research. I knew I was in the second intake of students to the university. How then could the Department of Management Science be celebrating its 50th anniversary?

Sue Cox, Dean of the School, welcomed us, and then all was revealed when Marion McClintock gave us the history of how there came to be a university at Lancaster and revealed that Pat Rivett took up the chair of the first department of Operational Research in the Country on 1st October 1963. So we were marking it almost to the day.

I completed my PhD in 1969 and my visits to Lancaster since have been rare and brief. Much has changed. In 1965 Bailrigg was a building site. Now it is a vast campus, and the Department of Management science has more space and more students than the whole University then. Graham Rand expanded on how OR came to Lancaster, and Peter Checkland spoke on the arrival of the Department of Systems Engineering, also in the late 1960s; both departments were later to become components of Management Science. Peter was one of at least 10 staff present who had joined the department in the 1960s and it was wonderful to see so many of the staff who had taught me then.

It wasn't all us old lags; there were staff and alumni present from across the whole span of the Department's life, and some current students. Richard Eglese gave us

something of the history of the Department up to the present day, and then it was time to celebrate the current status and achievements of Management Science from Linda Hendry (teaching), Mike Pidd (research) and John Ranyard (outside links). Taking Masters students into the real world as part of their course has always been a great strength. Geoff Royston complemented the department from the elevated seat of ORS President.

We heard from a student of each decade. Derek Atkins, Mark Elder, Vicky Mabin, Alberto Franco and Siddharth Singh showed the great variety of experiences and lives their Lancaster degree has taken them to.

Finally, Alan Mercer. Everyone who has had anything to do with the Department knows Alan. He was there at the start, and has seen the Department through triumphs and difficulties, usually from the inside. He held us spellbound for over an hour as he gave his personal recollections of his times in the Department. I learnt about things that had happened behind closed doors nearly 50 years ago, and puzzled me at the time, and I am sure others felt the same about their own times.

It wasn't all talk. There was time over lunch and coffee to share reminiscences and to ponder whether we ever looked as young as we seemed in old photographs. And for some of us the recollections continued over dinner. We left wishing the Department every success in the next 50 years.

Looking to the future then, as technology continues to impact the way in which we teach, I concluded my presentation by asking the question of how things might change in the next 50 years. In particular, it was interesting to consider the introduction of the MOOC (Massive Open Online Courses) – and the impact this may, or may not, have on Universities in the UK? I leave this here as an open question for us all to muse; but also with my hope that whatever the future holds, it will include a positive educational experience for all students who study Management Science at Lancaster. One recent graduate, Victoria Naughton – BSc Management Science (2011), said that: “My time at Lancaster was jam-packed, fun, educational, eye-opening and inspirational”. I hope that sums up how you remember your time at Lancaster too!

methodology and the 'methex'. Of course, this is not an exhaustive list. Hopefully though, it will jog your memory, as it did members of the audience who were readily able to define the term 'methex', for example! Nowadays, we tend to use more case studies than methexes, but our aim is the same – to make sure that students work on issues of current relevance to industry.

This brings me to the last key point touched on in my talk, and that was the many ways in which we have engaged with industry over the years, and in particular the way that this has continued to make our approach to teaching innovative. Of course, those of you who were masters students will remember the MSc summer project, with a majority of students working with an outside client on a live issue for 3-4 months. At UG level, our colleague Mark Westcombe recently won a teaching prize for his innovative engagement with industry within a first year Project Management module. Working as part of a small team, all students on that module work on a live issue for a local organisation, such as a school or a charity. There are lots of other examples including guest lectures; factory/ site visits; the involvement of industrial partners in setting coursework assignments for the MSc in Logistics & Supply Chain Management students; and the ongoing industrial research collaboration that informs much of our teaching.



Victoria Naughton

# Thoughts from the day 2

Chris Shearer (MA, 1968)



At the start of my OR MA in 1967 the department was located in Skein House in town and the University was only just starting to grow in the parkland at Bailrigg.

After graduation I maintained contact with the department through recruitment and seminar activities until the mid-80s. That gave me an insight into how the teaching of OR at Lancaster was evolving within the broader scope of Management Sciences, and an opportunity to see the early growth of the Bailrigg campus. The invitation to join the 50th celebration provided an excellent opportunity for me to learn how the campus and OR within the Management School have developed over the 25 to 30 years since my previous visits.

An early surprise was having to pay for car parking! But at least there was somewhere to park. The guided tour of the campus showed how much student accommodation has improved since the 60s and early 70s when the majority of students endured digs either in town or in Morecambe.

To hear how Operational Research at Lancaster has developed alongside Systems Management and as part of the Management School was interesting both from a retrospective viewpoint and as a basis for how that evolution is likely to develop. In the early days of OR it was sometimes seen and even promoted as a stand-alone activity within an organisation. The presentations illustrated that those days are over and OR is actively integrated with Management Sciences into both public and private sector organisations.

In the early years OR and Systems were primarily offered as Postgraduate subjects with only a few modules offered as parts of

undergraduate degrees. I was interested to hear how the range of Management Science undergraduate courses and corresponding student numbers have developed since my previous contacts with the university.

Alan Mercer's session was the first time that I had listened to one of his presentations without it being an examinable subject. This time I was able to listen without having to make copious notes, or even having to anticipate the inevitable end-of-lecture questions or discussion topics.

Alan recalled some of the battles and behind the scenes hurdles which he and Mike Simpson had to fight and overcome with various university authorities, particularly in relation to paid-for consultancy and student projects. He also recalled some of the inter-departmental conflicts and politics which had to be managed as the early OR and Systems Departments learned to coexist, and even to cooperate. Those issues were well hidden from students at the time. But without the tenacity of Mike, Alan and Peter Checkland in dealing with them, sometimes in devious ways, the early departments would not have survived and prospered as they have done.

For me, a key point from the five "How it was for me" presentations was a recognition of the huge variety of career opportunities and experiences which have been enjoyed by Lancaster Management School graduates throughout the last 50 years both in the UK and internationally. Given the foundations already laid I'm sure that in whatever form LUMS reaches its 100th anniversary it will be possible for current and future alumni to relate similarly successful careers and contributions.

Finally, a big thank you to all who ensured the smooth preparation and running of the day.



# Thoughts from the day 3

Steve Curtis (MSc 2003)

Since attending Lancaster in 2002/03, to study an MSc in Operational Research, I've always sought excuses to go back and visit.

The 50th anniversary celebration of Operational Research at Lancaster University was a perfect excuse, as it presented the rare opportunity to catch up with old lecturers from my time there, as well as – hopefully – learning a thing or two about how it all began.

Visits always evoke mixed feelings. I have many happy memories of my time, all of which come flooding back as I arrive at campus. The overriding feeling I have on returning to campus, however, is amazement at the rate of change seen around campus. There's evidence of investment in the University everywhere you look, which is great news for current and future students, although it leaves us alumni reflecting on what might have been. A new £20m sports centre greeted me this time, and a walk around campus uncovered yet more development in Colleges and Departments making the Spine unrecognisable in places. This was all before entering the new phase of the Management School for the first time. Some of the familiar corridors are still there, but they're now supplemented by large break-out areas and state of the art lecture theatres. Considering I've only been away for 10 years, it's all pretty impressive.

The celebration itself did not disappoint. The day was spent listening to presentations, including short recordings from Pat Rivett himself, with plenty of time interspersed to catch up with students and some of the 'old' lecturers.

The presentations shed some light on a number of previously unanswered questions,

such as "where did Skein begin?" Apparently thanks to a cheap batch of ties, and a loose connection between a flock of geese and a knotted length of yarn.

Hearing from past students from the 60s through to the 00s was somewhat surreal. Regardless of the difference in time, the experiences sounded very familiar. Granted technology had changed somewhat, but the courses, the challenges and the all-nighters remained the same. It was also satisfying to hear that the gruelling four-hour-long Fido exams had been a staple for decades before we arrived. The courses that students from the 60s and 70s talked of were the same, although the names associated with them varied somewhat. Alan Mercer was apparently renowned for technical theory in the 60s, but was teaching Marketing by the time I arrived. The most amazing statistic of all? In a University that changes as much as it does, it's a significant feat that Pizzetta Republic has survived in the same spot since the 80s!

A particular highlight of mine was hearing a recording from Pat Rivett about how he came to take the post at Lancaster. Everything all seemed so casual and coincidental but, without that series of events, Operational Research may not ever have come to Lancaster and the lives of all the people in the room would have been completely different.

The last act of the visit was to speak one last time with Graham Rand, to thank him for the day, and to find out how I could get my hands on one of the Skein ties. Sadly they're not available anymore but, obviously seeing my disappointment, Graham handed me his spare one. A great memento of the day, and of my time at Lancaster, and one I'll be wearing with pride at the next celebration, whenever it may be.



Steve Curtis – then

# PhD Awards and Kingsman Prize 2013

10 students have been awarded the degree of PhD since the last newsletter.

**Taghreed Al-Ghaith**, from Saudi Arabia, "Stakeholder saliency dynamics in strategic ICT projects in the Saudi public healthcare system: appreciative systems perspective"

**Devon Barrow**, from St Lucia, "Active Model Combination – an evaluation and extension of bagging and boosting for time series forecasting"

**Juliana Bonomi Santos**, from Brazil, "Operations Management Perspectives on Expert Services"

**Emily Cookson**, from the UK, "Models for Air Cargo Revenue Management"

**Luciano Brandao De Souza**, from Brazil, "Critical Assessment of Lean in Healthcare: Empirical Evidence in the NHS"

**Juliana Bonomi Santos** has been awarded two prizes: the Kingsman Prize for 2013, established in memory of the long-standing scholar of Management Science, Professor Brian Kingsman, and the 2013 Emerald/EFMD Outstanding Doctoral Research Award in the Operations and Production Management category.



Juliana Bonomi Santos

**Seb Miller**, from the UK, "Simple Plant Location Problem: Heuristics, Algorithms and Reductions"

**Thanh-Ha Nguyen**, from Germany, "Essays on Resource Management in Service Enterprises"

**Chris Wright**, from the UK, "Complex procurement with complex organisations"

**Liang Wen**, from China, "Cost Optimization in Vehicle Routing Problems with Time-Dependent Speeds and Road Toll Pricing"

**Yifei Zhao**, from China, "Facility layout under uncertainty: A stochastic programming approach"

This competition was open to students anywhere in the world who had been awarded their doctorate in the three-year period up to October 2013. She received a cash prize of €1,500 and the potential publication of a paper based on her research in the International Journal of Operations and Production Management.

Juliana was a remarkable student, and produced a remarkable body of work. The title of her thesis was 'Operations Management Perspectives on Expert Services', and the PhD was awarded 'forthwith' in July 2013. Juliana was a trailblazer in that she took the recently-normalised 'PhD by publication' format as an

opportunity to create something original and unique in form, as well as in substance and contribution. The three papers it contained dealt with distinct topics – Expert Service processes, the role of the customer, and New Service Development – but did so against a background of the concept of expertise, which Juliana is the first to bring in to the Operations Management field as a central concern. The final thesis incorporates sections additional to the three papers that set out the concept of expertise and its importance, then draws out the wider implications arising from the three papers taken as a whole.

The fieldwork that was carried out was all initiated by, conducted, managed, documented and analysed by Juliana. It was difficult to do in a number of ways – three very different industries were involved, so a lot of new technological and industry-specific knowledge was involved each time; being rather small firms, there was no 'well-oiled machine' to provide access and orient research students – Juliana had to make it all happen for herself. And in more general terms, qualitative research of this sort always requires a lot of 'thinking on one's feet'; it is never mechanical, and novices can struggle. That was not the case here. The firms were all provided with executive reports on completion of the study, which they found very useful; feedback on these also further validated the quality of the data and analysis.

Professor Nigel Slack, one of the leading figures in OM in the past 25 years, was Juliana's external examiner and comments as follows: "It is rare that a Doctoral thesis is both innovative and practically useful, while at the same time being methodologically sound. That of Juliana Santos is exceptional in achieving this.... the defence of her thesis was one of

the most enjoyable and stimulating viva voce examinations I have ever conducted."

Professor Martin Spring, Juliana's supervisor, said: "Juliana was a very worthy recipient of this award. The work she did has broken new ground in service operations management. Conducting the fieldwork and then writing the thesis was a process of constant discovery and creativity – as well as great fun – which is down to Juliana's ability to absorb ideas, think imaginatively, write clearly and make very good judgments about what to pursue and what not to. For the same reasons, she can look forward to a very successful academic career."

Juliana commented that her "thesis studied Expert Services provided for business markets, like engineering, software development and technical advisory services. It imports the concept of expertise from the psychology field to obtain a refined view on the nature of 'Expert Services' and, in this way, it improves our ability to manage them and to improve the processes by which they are delivered."

Juliana recently secured a position as Assistant Professor in Marketing and Competitiveness at Centro Universitário FEI in Brazil and retains a position as a Visiting Researcher at LUMS. Aspects of her research have already been published in leading journals and she is currently working in collaboration with Martin Spring and with colleagues in Kedge Business School in Marseilles to develop further publications and new projects.

# The submarine arriving at platform three

Brian Clegg



Brian Clegg – then

The recent experience of being on the Lancaster team in the Christmas special of University Challenge is a timely reminder of how much I owe to Lancaster and the Operational Research MA. We may only have reached the semi-finals (though we nearly beat the competition winners), but it was notable that our group really pulled together as a team, unlike many of the other universities.

At first glance we hadn't a lot in common, but there was a camaraderie that I think says a lot about Lancaster. I was closest in date to our team captain, actor Roger Ashton-Griffiths (in fact we sang together in two choirs), but got on equally well with Daybreak presenter Ranvir Singh from the 1990s and food broadcaster Matthew Fort, who dated back to before the construction of the Bailrigg campus. I suspect we are one of the few teams who have since met up and continue to keep in touch.

When I came to Lancaster I really had no clue of what I wanted to do with my life. I had taken a degree in Natural Sciences specialising in experimental physics, and apart from discovering that I couldn't see a future in a traditional lab (and that I hadn't the right kind of intellect for theoretical physics), I wasn't sure what to do. I toyed with the scientific side of archaeology, but a chance discovery of operational research in a careers office turned on a little light bulb over my head. It promised to combine science with the real world, using

the tools of the scientist to make things better for people.

From talking to the others on the UC team, my experience was very different from that of undergraduates. Postgrads mostly stuck together, and we were accommodated in Bowland with mature students, mostly from the Business School. Our courses tended to be 9 to 5, giving a 'home from work' feeling to the social side of our lives. But there's no doubt that the OR course gave me three things that shaped a lot of my career. None of these, sad to say, was a mathematical technique. I can honestly say that I never touched linear programming after leaving Lancaster, and though I did make use of statistics, it was typically in a fairly slapdash fashion. But these three things are fundamental.

The first is problem solving. A focus on problem solving is, of course, at the heart of Operational Research, and it was this that was at the centre of what I continued to do at British Airways. As it happened, the approach there was much more heavily centred on computing, which at the time was controversial in OR circles, where some traditionalists felt that it diluted the mathematical purity of the discipline. I had used computers at Lancaster, but in a small supporting role. At BA, information technology became central to all the OR work I did, and over time I became more involved in pure IT, ending up running first the new PC Centre and later a group investigating emerging technologies.

That problem solving focus also contributed to my first big career shift, which was due to an increasing interest in creativity. While at BA I studied with the likes of Edward de Bono and Tudor Rickards (you don't have to have an interesting name to work in creativity, but it helps) and in 1994 left BA to set up my own



creativity training business. I still do a little creativity consulting – and this is pure problem solving, though here it is through making use of techniques that encourage original thinking and new idea generation.

The second of Lancaster's influences was the jumbo. I don't know if these still exist, but these 8 hour exams with a single question proved a big talking point after my time at the university. The jumbo was an open exam where you could wander out, consult references, go and get a coffee and generally operate in a more real world way than under traditional exam conditions.

I think the jumbo was brilliant (and if they have been scrapped, they ought to be brought back!) because it was a challenge to take on a broad topic, rather than a tiny, tight focus. This has proved intensely valuable for me. If you compare the discipline required to write a book and write an article, they very much parallel the difference between a jumbo and a traditional exam question. To work on a book you have to have that big picture in mind, taking a lot in and making use of that overview to influence the smaller parts.

What's more, the jumbo also very much parallels what I do specifically as a science writer. A real scientist succeeds by focussing tightly on a very small area of science, but as a science writer I have to be able to explore widely spread topics. When I wrote about statistics, for instance, in my recent book *Dice World*, I also brought in all sorts of other subjects linked to probability and randomness, from thermodynamics to the prediction of bestsellers. In a sense, writing a book like that is very much a jumbo compared with a traditional scientific paper's equivalence to an ordinary exam question.

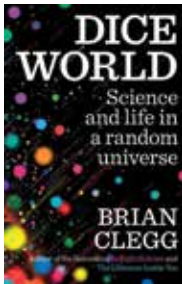
*Dice World*, incidentally, is the closest I've ever come to writing a book that embraces Operational Research. I've always fancied writing a combination of a history of the subject and a popular explanation of some of its techniques, but the sad fact is that such a book is likely to have a pretty limited market, and I've never persuaded a publisher that it would be worth paying me to write.

The third gift I took away from the OR masters was an effective presentation course. This was probably regarded by those who ran the OR course as a very small, insignificant aspect of their job – but it is arguably the aspect of my time at Lancaster that has had most impact. I won the prize for best presentation when I talked nonsense about using submarines as well as railways as part of a distribution network, a concept largely driven by the fact that I had a slide of the Chicago science museum exterior that happened to have both a train and a sub lined up outside the building. But in that moment I was hooked.

I admit it was a slow burn. It took around 17 years to take over my life, but what I got from that presentation course was an understanding that putting across information in a way that amused, entertained and really made people interested was central to what I wanted to do. As it happened it would take a good few years more to realize that the best topic for me to cover this way, because I still had a passion for it, was science – but that course set the seeds.

So there we have it. My thanks to Lancaster, and the Management Science department for making a decidedly unorthodox career a reality.

Find out more about Brian's books at [www.brianclegg.net](http://www.brianclegg.net)





# My life and times

Stephen Foster



Stephen Foster – then

Following my attendance at the 50th anniversary celebrations, I returned to Lancaster to give a guest undergraduate lecture, whereupon the editor asked me to write this article. One thing leads to another...!

After graduating with a degree in Economics with a mathematics bias (econometrics, statistics, O.R and computer programming) from (what is now) Coventry University, I chose first to take the M.A. Marketing course at Lancaster University (1969-70), before transferring to the OR Department to undertake a PhD with supervisor Professor Alan Mercer. The research topic was entitled "A quantification of the effectiveness of television advertising and its interaction with other marketing variables by the use of a micro-analytic marketing simulation."

Whilst at Lancaster I captained the University table tennis team who won the Lancaster & Morecambe league Division 1 title, but their most notable achievement after winning the UAU Northern league section in beating Liverpool, Leeds, Manchester Universities and others, was to become runners-up to Bath University in the UAU tournament finals, held at Loughborough, in 1972.

Leaving Lancaster in 1974, I joined the OR Department of Alcan Aluminium Ltd, a Canadian multi-national with numerous aluminium manufacturing plants in the UK, employing 10,000 people. After initially building a regression-based merger model for Alcan's stockholding group, I quickly moved into I.T. management specialising in manufacturing systems covering

shop floor reporting, capacity planning and scheduling systems. I designed and managed the development and implementation of an integrated suite of manufacturing systems to support the production and technical operations of Alcan Plate, including a HP3000 based scheduling (hearth optimisation) of the HHT furnace (FORTRAN based) integrated to a Siemens R30 process control computer, which controlled the operation of the furnace. In conjunction with Strathclyde University (department of Computer Science) I obtained a £1 million Alvey project (50% DTI grant funded) for the development of an A.I. scheduler, and was appointed to the Alcan Plate management team in 1985.

In 1997 I was selected to visit Japan and Nippon Light Metals (NLM) (51% owned by Alcan) to learn TPS (Toyota Production System) 5S and Kaizen (continuous improvement) techniques in order to return to the UK to pioneer the introduction of Lean into British Alcan. NLM were part of the Toyota Club in Japan, leading the world in revolutionising manufacturing processes by dramatically reducing lead time and inventories through batch size reduction and SMED (single minute exchange of dies) whilst improving quality through the application of TPS.

Back in the UK, the initial success was at Luxfer's Nottingham plant (manufacturer of gas cylinders) where I led a TPS programme that halved their inventory in 3 months and within 6 months had reduced their manufacturing elapsed time from 26 to 11 days. Over the next 7 years I helped British Alcan implement a company-wide programme which released £100 million of cash from inventory reduction in one year alone, whilst British Alcan's stock turn rose successively year upon year from 4.1 (1988) to 7.1 times (1995). I have been a lean practitioner ever since.



A colleague and I set up World Class Manufacturing Systems Ltd (WCMS) in 1996. The company was dedicated to assisting manufacturers in their quest to become industry leaders by applying both Japanese production methodologies (TPS) and high-tech information systems to solve real world manufacturing problems.

One such success (1998) was at McDougalls Foods, a leading player in the home-baking market, where I led a WCMS project at their Andover plant, Britain's leading baking flour manufacturing plant. This project deployed Manufacturing Execution Software (MES) employing Lean principles and ILOG optimisation software to develop an Advanced Planning and Scheduling solution for making real-time finite production plans and schedules based on customer demand, inventories and factory bottlenecks. The implementation achieved substantial inventory reduction, eliminated all external warehouse facilities and increased stock turnover fourfold from 13 to 50 times, whilst maintaining 99+% on time delivery. See the (now IBM) ILOG Cast Study: <http://www.kstec.co.kr/industries/manufacturing/success/SS-MacDougalls.pdf>

Other successful projects included the implementation of a finite capacity planning system at Alcan Extrusions Banbury, which together with a culture change in working practices saw site on time delivery rise from long running historic averages of 50% to 90% within 6 months of implementation and to a level of 98% two years later. See: [http://www.worldclassaps.com/AlcanExtrusion\\_CaseStudy.pdf](http://www.worldclassaps.com/AlcanExtrusion_CaseStudy.pdf)

Another major project was developing and implementing real time scheduling systems for Corus Steel's mills at Rotherham.



I've kept my academic interests alive throughout and presented several conference papers over the years. These include a Keynote address at an Institute of Materials conference in 1996 (See <http://www.worldclassaps.com/IOM-Article.pdf>) and a paper on Lean Production System Success at a conference on Lean Six Sigma, in Glasgow in 2012. It was this material that I gave at Lancaster in February.

In 2013/4 I taught business Improvement techniques (TPS and Six Sigma) at Hereford and Worcester Fire Rescue (HWFRS) Service Logistics at Malvern and facilitated a Kaizen project to reorganise their fleet stores, achieving an improvement in effective shelf space utilisation (ESSU) from 34% to 90%+.

I am currently the co-organiser of the annual XML London conference <http://xmlondon.com/> held at University College London (UCL) and planning to organise and chair a Lean Six Sigma conference at UCL in the autumn of 2015. In the meantime mathematics and optimisation have never been far away from my core interests and I am currently enjoying teaching higher engineering mathematics at Worcester College of Technology to 180 young people in 7 classes, over 3 days a week.

# Kevin Glazebrook wins OR Society's Beale Medal



Following the award of the Beale Medal to alumnus Mark Elder in 2012, as reported in last year's Newsletter, and to Peter Checkland in 2006, Lancaster was again honoured in 2013 as it was awarded to Kevin Glazebrook, our Distinguished Professor of OR

After obtaining his PhD in Mathematics from Cambridge University in 1976, Kevin worked at Newcastle University, before moving, in 2002, to Edinburgh as Professor of Management Science. Then in 2005 he joined us, a joint appointment with the Department of Mathematics and Statistics until 2011.

Kevin's research interests concern how complex random systems should be optimally controlled. This work ranges from theoretical analyses of novel methodologies through to more applied work, with relevance to practical applications. Application areas include:

- The optimal management of networks of inventories (in e.g. retail outlets);
- How manufacturing companies should manage the outsourcing of warranty repair work;
- How customers should be routed for service in complex service systems.
- Cargo revenue management
- Optimally processing intelligence information
- The optimal deployment of resources for defensive surveillance

Kevin has published extensively in top academic journals in Europe and the USA. In 2011, he co-authored a book on Multi-Armed Bandit Allocation Indices concerning the theory behind an important class of stochastic models.

In recent years, Kevin has played a major role in the development of OR in the U.K. In 2006 he was the founder and initial director of NATCOR, an EPSRC-funded national taught course centre in OR. He directed NATCOR for its first six years, and secured follow-up funding from EPSRC in 2011. He currently directs the LANCS Initiative, a £13M Science and Innovation Project to expand research capability in foundational OR in the UK funded by EPSRC and Lancaster, Nottingham, Cardiff and Southampton universities.

He chairs STOR-i, an EPSRC-funded Centre for Doctoral Training in statistics and OR with substantial industrial engagement. It is one of only a few such funded centres in the mathematical sciences in the UK.

He is a member of the EPSRC Peer Review College and currently serves EPSRC as a member of the 'People Pipeline Project' looking at career progression for early stage researchers, and serves as Chair of several prioritisation panels.

He is serving on the Mathematical Sciences Strategic Advisory Team until April 2015. He is a member of subpanel 10 for REF2014, which is evaluating UK mathematical sciences research, which includes OR. Kevin served the OR Society as a member of Council from 2007-2012, contributing to the Education & Research Committee. He currently is on the editorial boards of several journals.

It is clear that Kevin has made an outstanding contribution to OR by the excellence of his research contributions and his influence on the support and development of the discipline in the U.K. We are delighted that he has been awarded the Beale Medal, allowing the Department to bask in his reflected glory.

# News of Former Students

Many thanks for all the responses and contributions that have been received since the last newsletter in 2012. Some of the offerings have been cut for reasons of length, not taste or decency!

**Paritosh Agarwal** (MSc Operational Research & Management Science, 2010) is working as a Business Consultant for JDA Softwares in Cargo Revenue Management Division. He recently received the JDA Performer Award for H2-12. He married Kanuj Gupta in February 2013.

**Justice Akpan** (PhD, 2006) was the recipient of The Exceptional Service Learning Project Award at Kent State University, USA, for the 2013-2014 Session for an outstanding consulting project undertaken with a leadership training institute, Leadership Tuscarawas. This program enables faculty and students to apply the skills and Knowledge acquired in the classroom to solve Practical problems as part of the services that the University offered to the local community. Justice, with a team of three students from his Business Consulting class and officers from Leadership Tuscarawas, were honoured during the 43rd Spring Award Ceremony organized by the Kent State University, Tuscarawas Campus, USA.

**Val Belton** (MSc, 1978) is organising the EURO conference in Glasgow in July 2015. Maybe some of you would like to attend. She married **Mark Elder** (BSc, 1978) last summer.

**David Burnell's** (MA, 1974 and PhD 2007) main activity these days is writing crime fiction. He has a series of novels which he's called Cornish Conundrums, modern-day crime set in North Cornwall. His heroine is a recently-widowed

**Obis Adabanya** (MSc Logistics and Supply Chain Management, 2013) has shared photos of her marriage in Nigeria last October to IK Oragwu. In fact, two weddings: a church wedding and a traditional one. Apparently, during her traditional wedding she wore three outfits. The first one (shown) was for the payment of her bride price, the second outfit was to signify royalty, and the third outfit was to choose her husband. She went to meet her father who handed her a glass of palm wine to search for her husband and offer it to him. It would appear that she found him!



Obis Adabanya



business analyst called George Gilbert, who encounters crime as she conducts various projects. So far there are two books: Doom Watch (set around the Camel estuary); and Slate Expectations (set around Delabole). He's just starting to think around a third, which might well relate to flooding in Looe. His website is davidburnell.info.

He says, "If anyone reads either book and has five minutes to give it a one-sentence review on Amazon that would be great."

**Ryan Callus** (MSc Project Management, 2008) has worked for the last five years as Foreign Affairs Policy Coordinator at the Ministry of Foreign Affairs in Malta and is currently a lecturer on project management in the private sector. He was elected as the youngest Member of Parliament on the opposition side in the last general election held in March 2013. He has also been elected as Deputy Mayor in his home town, Siggiewi.

**Fabio Petzhold** Dias (MSc Management Science and Marketing Analytics, 2012), after leaving Lancaster, went through a few job application processes for roles based in different places: Zurich, Barcelona, Dublin, and London, where he currently works. He says “There is so much going on here. The market is very dynamic, fast-paced and diverse with plenty of opportunities in industries like finance, media, retail and consulting. I chose to join a rapidly growing company, which like other start-ups has its office nearby the Old Street roundabout. In a customer insight analyst role at Farfetch, I found the perfect mix of excitement with challenge to use my marketing analytics skills understanding the company’s customer.”

**Ralph Laing** (MA, 1965) spotted himself on the front cover of last year’s Newsletter. He moved into general management after setting up the Rolls-Royce OR Group, implemented the UK’s first MRP system (MAGPIE) then designed and implemented their first net change system (IBIS). Became General Manager of Purchasing, then Materiel. Left in 1981 to found MML (which used simulation to teach manufacturing management) and MCS which produced one of the more solid C-based manufacturing control systems. Sold out to Fujitsu in 1991 and has been playing and writing about jazz ever since, and once made the Times crossword finals.

**Wilbur/Basil Lavine** (MSc, 1985) has just retired as CEO of the Barbados Investment and Development Corporation. After Lancaster, he returned to the Barbados Development Bank before moving on to the BIDC as Director of Research etc. He later went to Harvard on a special programme on Environment, Information Systems Management and CEO training.

**Daniel Lindblad** (MSc Operational Research and Management Science, 2010) has sent us some news about his job, with advice for current students.

“The consumer complaint management project at Beiersdorf, my OR MSc. Project, was my entry ticket to the business world. Since the project took place in a global function, my, at the time, non-existing German skills were not an issue. It was a great opportunity not only to apply OR-techniques in a real-work situation, but also to work in a leading global skin care company. I was lucky enough to have a fantastic first boss in Dr. Thorsten Berg. Following the three month project, I was given a temporary contract to finish the work I had started.

The notion of KISS – keep it simple, stupid – soon came to my mind after I, now as an employee, left Quality Management for Corporate Strategy. In my 1.5 years spent in the strategy team, the ability to quickly make good analyses proved highly useful. However, I soon realised that what matters much more than the underlying analysis are the results and how you present them. Politics plays a much larger role than any statistical model in the strategic domain. That said, quantitative analyses underpin many business decisions.

My bosses insisted on me gathering operational experience. “How can you make good strategy, if you don’t know what really

is required to implement it”, I was told. The company invested in me through trainings of various kinds, and also gave me the opportunity to learn German. It was a preparation for the dive down from the ivory tower. As a result, I transferred to the German affiliate – as one of (still) very few foreigners. For about a year and a half, I have advised our trade partners on shopper insights, assortment selection and product placement for my categories. The role as a Category manager is highly exiting, since I get to work directly with the trade, outside of the typical buyer-seller relationship. People management is often more challenging than most of the analyses I do. Lancaster provided me with a great basis for the latter. The former, I believe, can only be acquired through work experience.

If I were to give some advice to current OR-students, it would be to use the time not only to focus on the project and the input for the thesis, but also to network with relevant people in the company and show genuine interest. Some may think that it is inappropriate to directly approach people at management level. I most likely would never have landed the job if I had not! After all, most people get flattered when others show interest in their work.”

**Liu Hongjuan (Juan)** (MSc 2004, PhD 2008) recently took up a role in Ageas, a Belgium insurance company, as their head of Customer Relationship Management for Asia. In this role, Juan is responsible for develop and implement CRM strategies for Ageas’ Joint Ventures and subsidiaries in Asia. Areas of support include customer data management, customer analytics, customer value proposition, as well as customer campaign management.

**Spyros Michas** (MSc, 2005) has gone back to school, eight years after graduating from Lancaster. In June 2013 he resigned from Fitch

where he had worked as a Director Economist in the Sovereign Group maintaining responsibility for the credit ratings of several countries across emerging Europe, to pursue an MBA at Wharton School of the University of Pennsylvania.

**Paulo Nunes de Abreu** (PhD, 1999) was recently appointed CEO of groupVision Switzerland AG. groupVision is now restarting its business operations in Switzerland – specialized group facilitation services, meeting management software and 3D virtual learning systems for business and education are the core services and products the company offers in this market.

His family is very pleased that Maria (who was a LUMS accepted candidate) after taking a gap year has finally settled as a medical student in Madrid, now entering her third year with excellent marks. He hopes her younger sister, Marta, will take her place, when applying to Lancaster in two years’ time.

**Roberto Portillo** (MSc Operational Research & Management Science, 2011) is working at the brewery (SABMiller) managing the improvement projects in manufacturing. He has also started giving some lectures (in Operations Management II) in one of the top universities in El Salvador. “My experience at Lancaster is really helping in this new journey!”

**Mike Power** (MA, 1971) is hoping to organise a reunion in the South of England for the class of 71. Whilst he is in touch with many of his class he would be glad to hear from others, whether or not they can be at the reunion. He may be contacted at <mailto:michaelpower@yahoo.co.uk>. Since leaving Lancaster, Mike has trotted the globe with P&G, starting in OR before moving into Finance (a strategy sown by a conversation with Alan Mercer, who supervised his project) and later General Management. His last assignment



Mike Power

was as President of P&G's Global Business Services organisation from which he retired in 2003. He then became Chief Operating Officer of the successful 2012 Olympic bid and the first COO of the organizing committee, before retiring from that in 2008. He now is an Expert Advisor for BCG, a non-Exec Director of three sporting organisations, supervises Masters students at the LSE and is an occasional lecturer at the Oxford University Business School. Some retirement!

**William Waller** (MA, 1975) has worked for a variety of companies, in OR roles, since leaving Lancaster in 1975; British Gypsum, Strathclyde University, as an RA, British Gas Northern, Cap Gemini. He then had his own business – Cairnwell Consulting, which unfortunately was unsuccessful. After that he worked for the regulator for care homes and social services as a data analyst; this finally also took responsibility for health services. He retired in September 2011.

Since 1986 he has lived in Newcastle upon Tyne and has enjoyed a good social life and church life there. He became a Christian at Oxford in 1971, and now in Newcastle he is active in an evangelical Church of England. He is still in touch with Stephen Taylor, and his wife Sally, whom he met at Lancaster. He was pleased to hear the news of Amitava Ghose who he remembers from the OR course. Now he is happily retired he has taken the job as organiser of the North East Christian Rambling Club, so they are out in the hills and countryside of Northumberland and Co. Durham one Saturday every month. His mother is still well and now 90 years old.

**Jonathan Whitworth** (BSc, 1993) has recently moved to Kuala Lumpur as Regional HR Director South East Asia for G4S.

**Jacky Yan** (MSc, 2006) is working in China as a management consultant.

## Reminiscences

**David Sadleir** (PhD, 1967) noted with great interest the picture on the cover of last year's Newsletter, as several of the class of '65 were Ph.D. candidate colleagues when he arrived at Skein House in September 1965. He has sent us the following reminiscences.

"The faculty on hand at the time included Pat Rivett, Alan Mercer, Mike Simpson, Cliff Wilkinson, Brian Kingsman, Gail Thornley, Harry Dunn, Mike Chambers and Tony Hindle. John Barry, a Yank on loan from the Pentagon or wherever, was around for a time as well. There were two excellent support staff along the way that I recall, Pauline Glover and June Cross. I met June years later at an OR conference I attended at Bailrigg. The department had a small IBM computer at the time, maybe a 1610 or some such number, with a very slow printer for sure, and I do recall the agony of having to 'partition' various problem sets in order to both compute results and get them to print.

We had many wonderful opportunities, among which was the frequent interaction with visiting Profs like Wes Churchman and Russell Ackoff who were contributors to the many 'industry courses' held by the department. We all really liked those, not just for the privilege of sitting in the back row during the course delivery but, especially, for the end of course dinners that were always lavish ... or seemed so at the time for an impecunious grad student!

Bailrigg was under construction so we did not have a lot of facilities but I do remember a local allowing us to use his bitterly cold and damp squash courts just up a hill above a neat pub on the outskirts of Lancaster – cannot recall the pub name but was very glad to be able to roll down the hill to that pub after a game. Learning

how to down a yard of ale at the Golden Ball pub was also a memorable, albeit wet, experience. I lived at the top of Bowerham Rd, next to St. Martins' for a year and then was fortunate enough to get a flat atop the just completed Bowland College.

Parking space on the pie-shaped lot at Skein House was limited and, while more or less broke, a surprising number of grad students had vehicles of one kind or another. The combination, as I recall, led to frequent 'chats' with the local constabulary. Add to that the impact of the Waring & Gillow's temporary facility for undergrads and the onslaught of students looking for places to live in Morecambe, Lancaster and the surrounding countryside and you had the basis for a somewhat tense "Town & Gown" situation on occasion.

Being part of the OR group was a real privilege and I have a lot of very happy memories. Only regret I have is that my financial circumstances and job commitment back in Canada did not allow me to stay around for the graduation ceremony."

David also supplied some personal news.

### "Career"

I am retired and followed my long business career in the world of oil, pulp & paper, software and telecommunications by returning to the University of Toronto first as Vice-President for 5 years and then 3 more years as a Professor in Mechanical and Industrial Engineering.

I continue to be very active in volunteer circles and serve as Chairman of the Board and President of the Sir Frederick Banting Legacy Foundation. Our mission is two-fold: Fight Diabetes and Preserve a Legacy. We

have restored, adapted and enhanced the 107-acre birthplace of Sir Frederick Banting, co-discoverer of insulin and Canada's first Nobel Laureate. We are using that property in Alliston, Ontario, and the historic buildings now rescued, as an inspirational backdrop from which to pursue our "Fight Diabetes" programs. With over 371 million diabetics in the world, it is the 21st century epidemic. Among that number is a growing percentage of children, some as young as eight, and we all need to do our part to stop this onslaught. Our programs include awards for post-docs, an annual lecture series involving international experts, and clinical innovation trials as part of a search to find new models of care for teens in transition from the paediatric to adult healthcare system, a daunting challenge for many. Our partners include a diabetes outreach team, now serving in excess of 6,000 clients/year, and a university-based paediatric diabetes research team as well as researchers from other universities who are helping us design trials and assess validity of outcomes.

### Some "Family" News

My eldest son (born in Lancaster in 1966, by the way) is a Captain in the Royal Australian Navy and has recently been given command of their newest and largest ever ship, HMAS Canberra, a combination aircraft carrier and assault ship, which is due to be commissioned in 2014. He was awarded the Order of Australia in April 2013 and we are all extremely proud of his achievements after 15 years in his adopted country. Younger son is in charge of telecommunications services for the Province of Ontario, working in Toronto. Daughter is a manager in a major retail business also in Toronto. My wife, an artist and ardent gardener, is also very active in volunteer work. Our dog, Ben, now 14 years old, still thinks he is a person."



David Sadleir

# Adam Letchford organises optimisation event in Cambridge



Optimisation remains one of the strengths of the Department of Management Science. In July and August 2013, a four-week event devoted to this topic took place at the Isaac Newton Institute for Mathematical Sciences, in Cambridge. It was organised by Professor Adam Letchford, with help from colleagues from Toulouse, Konstanz and Southampton.

The event was concerned with optimisation problems that involve polynomials, which have applications not only in operational research, but also in applied probability, engineering and the physical sciences. It was attended by over

eighty researchers from over twenty different countries. It incorporated a 2½-day Summer School for PhD students and post-docs, a 2½-day Workshop, a series of 60 seminars (recorded and made available on the web), an 'Open for Business' day (attended by delegates from industry), and several social events. For details, see the following web page: <http://www.newton.ac.uk/programmes/POP/index.html>

The organisers are currently co-editing a special issue of the premier journal *Mathematical Programming*, devoted to the programme.

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We have setup a Linked In group for Management Science Department alumni. So that you can stay in touch and share job offers etc. We already have 555 members!

The link is: [http://www.linkedin.com/groups?home=&gid=4122815&trk=anet\\_ug\\_hm](http://www.linkedin.com/groups?home=&gid=4122815&trk=anet_ug_hm)