The Ring

Ring news

Letter from the Editor

For those of us who are avid sport watchers, it's been an exhausting summer: the football World Cup, the US Open, Wimbledon, The Open, the European Athletics Championships and the Tour de France. However, while some of us have done little more than flick the remote or hide behind the sofa while watching England play Germany in the World Cup, a number of Ring members have clocked up sporting achievements of their own.

In May, Sunil Shah (F09) completed the Tour d'Afrique (you can read about his trip on page 4), crossing Africa from north to south, and covering almost 12,000km in four months — a true test of mind, body and bike! The Tour is a 94-stage race broken up into eight sections. It includes 22 rest days, two un-timed stages and two days of travel across Lake Nasser, for a total of 120 days. The overall winner is the cyclist who achieves the lowest accumulated time.

If you don't have four months to spare but want a challenge, how about the Dragon Ride Wales? This event is for experienced cyclists and, unlike shorter charity rides, is not a leisure ride — so that counts me out. The route takes in two classic UK category 1 climbs, as used in the past on the Tour of Britain and the Milk Race. However, this — and the fact that it covers 190km — did not dissuade Stephen Allott (T80) from entering. Indeed, a glutton for punishment, Stephen has competed before. This year he completed the ride in an impressive 8 hours and 30 minutes.

For those who like to take things at a more leisurely pace, the Ring's summer events offered a good opportunity to enjoy a beer in the sun, catch up with old friends and hear about members' new ventures (Russell Haggar talks about his new company Xsilon on page 11).

Stephen Allott still smiling after 190km

The London Ringlet summer party at the beginning of June was a great success, with over 40 members in attendance. Thanks, once again, go to London Ringlet chairman, Alastair Gourlay, for his seemingly effortless organisation. We were also grateful to Metaswitch for generously sponsoring the event.

At the end of June, Google hosted another open house at its London office. Despite the fact that some thought the talk not sufficiently in–depth — and the pizza luke-warm — the overall response was positive, and there is certainly demand for further company in–house events. So, if you run or work for a company that is doing interesting stuff and would be prepared to talk about it we'd love to hear from you. Not only do such events provide Ring members with an opportunity to hear about new technologies and markets, but it also offers a great opportunity for your company to network with a diverse and interesting group of Cambridge's brightest.

We were once again indebted to Lorenzo Wood (CHR93) and LBi for hosting the August London BBQ. Despite blustery weather the rain held off, allowing guests to enjoy the fabulous view from the terrace while tucking into the delicious food. While conversation ranged from the predictable slate debate to more esoteric intellectual property issues, the evening ended where I began — with sport. For, as the night drew in, guests repaired to LBi's basement bar and lounge for the serious business of pool and table tennis.

Ring events

The summer events provided the perfect opportunity to catch up.

Sunil Shah

After 12,000 kilometres, **Sunil Shah** wished he'd included suspension on his custom-made bike!

Given that I was both intent on travelling after graduation and a keen cyclist, I decided to join the 8th annual Tour D'Afrique bicycle race and expedition. We left Cairo, Egypt in January 2010 and travelled 12,000 kilometres to reach Cape Town, South Africa in May.

The Tour is the world's longest, toughest bicycle event across Africa, with an average 120 kilometres riding per day. The Tour passes through ten countries in total, starting in Egypt then onto Sudan, via ferry to Ethiopia and then to Kenya, Tanzania, Malawi, Zambia, Botswana and Namibia before arriving in South Africa.

As a child and teenager, I was always bad at sport and only truly found my athletic calling when I discovered cycling, both as an enjoyable hobby and as a way to lose weight!

I started cycling to school age sixteen and quickly became addicted. At Cambridge, I joined the Cambridge University Cycling Club and was heavily involved, organising mountain bike rides and University race representation as a committee member in my second and third years at Fitzwilliam. After saving up several summers' worth of internship earnings and convincing my parents of the safety and plausibility of the trip, I committed to the Tour at the beginning of my final year.

The Tour D'Afrique is a supported tour: the riders (of which there were around 60) provide their own bicycles, camping equipment and personal possessions, while the organisers (also named Tour D'Afrique) provide all the logistical support. Two trucks containing lockers, food, water, and anything else required drove ahead each day. One truck would stop at just past the day's half-way point to prepare lunch, while the second truck would drive on to camp to prepare dinner. Staff consisted of several tour directors, truck drivers, two medics, a bike mechanic and a cook.

Prior to the trip I did little training (voluntary work in India and the heavy snow of winter made this almost impossible) but spent a significant amount of time planning my equipment. My bicycle was a home–built titanium cyclocross bike, with a custom-sized frame ordered directly from a factory in China, and components specifically chosen to survive the rough African roads — though in retrospect, suspension would have been a thoughtful addition!

Significant challenges of the Tour varied from avoiding illness (stomach bugs, especially in Ethiopia, were easily caught), fending off injury (repeated stress created sores and wore out joints), avoiding crashes (a sure-fire way to return home early), maintaining a working bike and simply riding every day. Most of these were thrown my way. I rode out of the saddle for nearly two days in Sudan because of bad sores, had high-speed crashes which required parts to be sent from home, and on one day had so many punctures that I had to walk, and then borrow a local's bike to ride to camp.

Riders of the Tour strive for the coveted EFI (Every Fabulous Inch) status, signifying that they travelled the entire length of the continent under human power (riding a motorised bike leads to disqualification). I was able to achieve this through considerable luck and finished 9th in the race overall. Moreover, the trip provided the perfect opportunity to help raise money for a charitable cause, and so I was pleased to be able to support a project to build a Montessori training college in Tanzania.

If you would like to donate to the Montessori project in Tanzania, visit http://www.geekonabicycle.co.uk/charitable.

You can read Sunil's blog at http://www.geekonabicycle.co.uk, or at http://www.tourdafrique.com.

If you're interested in taking part in the next Tour and would like further information, you can get in touch with Sunil at sunil.shah@cantab.net.

Who's who

Louise Auger (CAI BA98) has left Qualcomm and now works for Instrata as a user experience designer.

Robert Catherall (F BA01) is a software engineer at ARM in Cambridge.

Leon Crisp (CHU BA92) is CTO at secureVirtual, a company he founded in 2004.

Michael Elliott (CHR BA97) works for JP Morgan in New York, where he runs a team that delivers innovative risk, pricing and trade management systems for trading businesses.

Andrew Ferguson (R BA01) is a software engineer at Gloucester Research, which produces quantitative investment research, software and IT systems for use in investment management.

Andy Harter (F BA83 CC PhD90) has been awarded a prestigious Royal Academy of Engineering Silver Medal for his outstanding personal contribution to British engineering.

Colin Howe (Q BA06) is a developer at The iPlatform, which specialises in building social applications for the Facebook and Facebook Connect Platforms.

Neil Jenkins (K BA09 MPhil10) is a developer at Opera.

Joe Kearney (CAI BA07) is working as a programmer for GSA Capital, an investment manager.

James Lingard (R BA01) is a software engineer at Arista Networks, which was founded to deliver networking solutions for large data centres and high-performance computing environments.

Alex Lee-Corbin (PET BA06) works for Bloomberg as a financial software developer.

Dr Phebe Mann (HH BA01) was shortlisted for the 11th Asian Women of Achievement Awards. Phebe is a Chartered Civil Engineer, Chartered Surveyor, Chartered Builder, Member of the Chartered Institute of Arbitrators, European Engineer and Fellow of the Higher Education Academy. Phebe is currently lecturing at the University of Reading in ICT/Construction Management.

John Naylon (TH BA94 PhD99) is head of R&D at Cambridge Broadband.

Tom Nicolai (DAR Dip02) is working in Bremen where he is a research assistant at urban team, a development studio for mobile games.

Andrea Lo Pumo (G MPhil10) is about to start a PhD at the University of Cambridge Computer Laboratoy.

Feng Qiang (CLH MPhil10) has just completed an MPhil in Advanced Computer Science at the University of Cambridge Computer Laboratory, and is about to start a PhD in Operational Research at the University of Edinburgh.

Simon Rees (JE Dip06) is working for Lane Clark & Peacock, a firm of financial, actuarial and business consultants specialising in the areas of pensions, investment, insurance and business analytics.

Roland Tai (W MPhil10) is working as an engineer for DSO National Laboratories, Singapore's national defence R&D organisation.

Daniel Wagner-Hall (HOM BA10) is a software developer at Red Gate Software in Cambridge.

Andrew Wallace (EM MA84) is Chief Commercial Officer at Eutelsat SA, the leading European operator and one of the three top operators in the world for the supply of fixed satellite services.

Duncan Woods (CL BA00) manages the software development department at GL Garrad Hassan, the world's largest renewable energy consultancy. He has three .NET development roles available in this exciting and important sector!

Patenting strategies for software companies

Nicholas Fox, partner at intellectual property firm, IP Asset LLP discusses the basics of establishing a company patenting strategy.

In the modern world, intellectual property often accounts for much of a company's value. This is particularly the case for software companies. Once code is created, creating multiple copies of a program is trivial. The hard work is in creating the code in the first place.

Protecting a software company's IP is therefore no different from protecting any other highly valuable business asset and, unlike many other assets, IP rights can produce revenue worldwide. Copyright provides some protection for computer code, but that protection is limited to direct copying. If someone is inspired by your idea and creates their own version of the program, copyright will not enable you to stop them. The only form of IP right which will protect a software company's investment in such circumstances is a patent.

If a company is to get value out of patent protection, however, such protection must form part of an overarching patenting strategy. The bottom line is that unlike copyright, which comes into existence automatically, patents cost money. The only reason for a company to pursue a patenting strategy is if spending money on patents gives a better return than investing the cash in other ways.

Why bother with patents?

Contrary to what one might expect, the first question any company considering patent protection should ask is not what to patent, but rather, "why bother?" Indeed, with a typical software patent draft costing in the region of £5,000 just to get the application on file, it can be very tempting to make a strategic decision not to play that game. However, there can be many reasons why going down the patenting route is commercially the right thing to do.

First, choosing to file for patent protection makes a clear statement about a company's management team. If a firm has a patenting strategy, it will demonstrate to the outside world that the company takes its IP seriously. A patent portfolio is an asset which appears on the balance sheet, and for small start–up companies this provides reassurance to investors that when the company is floated, it will not be destroyed by rivals doing exactly the same thing.

In addition to being an asset, patents obtained as part of a coherent patenting strategy can also make money directly. Patented products can be sold at a premium. Alternatively, if an idea is widely adopted, patenting can provide a stream of licensing revenue. Any patenting strategy should therefore be linked to how value in the resulting patents can be realised.

What ideas are worth protecting?

Having decided that the patenting route is worthwhile, the next question is then, "what to patent?"

One might have expected to find the best guidance for this in patent law itself, which allows patents for inventions that are new, non–obvious and which relate to patentable subject matter. However, looking directly at the law is almost certainly going to be misleading, particularly for software companies. In Europe and the UK, for example, one type of invention specifically held out as being non–patentable is a "computer program as such". A naïve reading of the law, then, would take there to be a complete ban on patent protection for software inventions. This is just not true, though. Software inventions can be patented in Europe and the UK provided that they confer some kind of technical benefit. Therefore, novel computer programs can be eligible for patent protection and should not be overlooked. For software companies, this is key.

A better approach is to use the law as a basic structure for identifying potentially patentable inventions. Probably the best starting point is the question of whether something is "obvious". Anything that provides a "new technical solution to a technical problem" is considered inventive for the purposes of patent law, and is not obvious. The development need not be a massive breakthrough and in practice inventive height is invariably linked with commercial importance. The adage, "If it's

worth copying, it's worth protecting" very much holds true. If some development makes a product better, faster or cheaper, and it is something that competitors are likely to want to exploit, then it is worth considering patent protection for it.

The next step is to weigh up the relative inventive step against commercial importance. If you really have made a breakthrough invention, this decision is very straightforward. At the other extreme, if you develop something that is far from a breakthrough but is clearly highly commercial, patent protection may still be worth pursuing even if the invention barely passes the "oh, come off it, you can't be serious" test. A good example of the balance between commercialisation and inventive step is demonstrated by the large numbers of patents relating to printer cartridges. When you put a cartridge in a printer and it tips and slides into the body of the machine, that is because of the relative positioning of various plastic lugs on the cartridge casing. Each cartridge manufacturer has patents for the specific arrangement on the cartridge based on arguments as to how this ensures various parts of the cartridge and printer interact in the correct order. The argument that putting different plastic knobs in different positions has made the world a better place may be weak, but as the printer cartridge is the product that is sold in the marketplace, the commercial arguments in favour of obtaining patent protection for such "inventions" are overwhelming.

Companies that show a clear understanding of where patenting fits in their overall business strategy are more likely to thrive and attract investment, in good times and in bad.

The rest of the "what to patent?" test can be dealt with relatively easily. Most skilled developers, particularly in specialist fields, have a reasonable idea of what their rivals may be doing. As an initial rough–cut test for whether something is "new", this is as good as any, particularly if it is supplemented with a quick Internet search to identify rival products using keywords in a general Internet search engine, or a brief keyword check on patent literature using a specialist Web site such as www.espace.net.

When and how

If you have identified a commercially valuable idea which may be suitable for patent protection, the next step is to talk to a patent attorney. This is ultimately the most fundamental "how" of developing a patent strategy. Protecting software inventions is a specialist skill, and a business that tries to do the job for itself on the cheap is very likely to be wasting its own time and money.

A patent application must be drafted so that it complies with all the legal requirements. It must describe one or more implementations of an invention at a level of detail which would enable others to implement it. It is also vital to consider the scope of protection which is to be sought. Rather than protecting a specific commercial product, a patent must be drafted carefully to extend protection to equivalent ways of achieving the same advantages. Failing to do so can result in a patent which is easy for others to circumvent. Also, it is quite possible that a new product may involve more than invention and, if that is the case, multiple patent applications may be required.

Patent attorneys are trained and experienced in identifying multiple inventions and in leveraging broad protection, as well as spotting whether an idea is ripe for patent protection. Failing to seek professional advice when pursuing potentially very valuable patent protection risks significantly higher costs in prosecution and the scope of protection which is ultimately achieved. Certainly in the computer field, patenting is almost a digital exercise. Either the initial patent application is drafted properly or the resultant application is likely to be of little if any worth at all.

The ability to describe an invention at the level of detail needed for it to be practically implemented is in fact the best indicator of the right time to file for a patent (the "when" of a patenting strategy). Although it is not necessary to have a working prototype in order to draft a sufficiently detailed patent description, any invention must be worked out and described in enough detail that a third party can understand what is going on. It is no good filing a patent application which just contains a list of wishes and desires, where in the middle of some described process a miracle happens. An idea should be sufficiently developed before any patent application is filed.

Against the need for a fully developed idea, though, stands the rival consideration that inventions must be new. If anyone publishes an invention, anywhere in the world, the opportunity for patent protection is lost. It is therefore essential that any developments are kept confidential until a patent application has been filed, and protection should be sought as soon as an idea is ready for patenting, much like ripe strawberries should not be left too long on the plant. Therefore, time is of the essence, but timing is a judgment call. Filing too early risks a patent application lacking sufficient detail. If this is done, the lack of detail may prevent the application from ever being granted. On the other hand, delaying too long risks information leaking out or rivals getting there first. The safest course is to consult a professional patent attorney earlier rather than later. A competent professional should not be afraid of telling you to come back again later once an idea has been more fully thought out.

Where to patent?

Patent protection is a highly international business. This means that, in practice, a company must obtain patents in each individual jurisdiction in order to get protection worldwide. Fortunately, a number of international agreements enable applicants to delay making a final decision on where protection should be sought. The oldest of these, known as the Paris Convention, was signed in 1883 and provides that if a first patent application is filed in virtually any country in the world (with a few fairly inconsequential exceptions), corresponding foreign patent applications can be filed up to a year later and novelty and inventive step are judged as of the filing date of the first application, to the extent that the invention was described in it. In practice, this means that applicants have a year to test an invention before committing to the costs of filing for foreign protection.

A second international treaty, known as the Patent Co–operation Treaty (PCT), enables applicants to extend this year–long period by a further 18 months at a cost of approximately £3,500.

At the end of the 12–month Paris Convention priority period, or at the end of 30 months if the PCT system is used, an applicant must decide where further protection is to be sought and file any other national patent applications. In Europe, this decision is simplified by the existence of the European Patent Office (EPO), which enables patent protection to be sought in 36 European countries through a single application filed and prosecuted in English.

The decision on "where to patent" very much depends on the commercial area in which a company operates. For a pharmaceutical company with a blockbuster drug, where the costs of patenting are insignificant compared to the anticipated returns, patents are frequently sought in very many territories. However, for many inventions, protection is only required in a limited number of markets. Typically market size will follow GDP, meaning that the most important countries are normally the USA, Japan, the UK, Germany and France. If, however, you have a specialist product, these figures can be distorted. Thus, for example, if you have a computer model related to the detection of skin cancer, the very high incidence of skin cancer in Australia combined with its reasonable market size might make this one of your key markets.

In addition to protecting in key markets, an alternative approach is considering where rival products are likely to be manufactured. These days this normally means considering patent protection in China and India, which could provide a means of attacking an infringer at source.

Throughout all of this, the key consideration should be the likely return on investment arising from any patent protection. Each additional jurisdiction increases costs and after a point there may be diminishing returns. Thus, for example, although Europe as a whole may be a very significant market, almost 50% of that market is accounted for by the UK, Germany and France, and having protection in those countries alone may in some cases be enough to persuade a rival that competing for the rest of the European market is simply not worthwhile. Throughout the entire exercise, a coherent strategy is advantageous because not every invention merits the broadest protection. Each application should therefore be considered on a case–by–case basis, and having ground rules in place enables decisions on the patenting of individual inventions to be made and justified.

Conclusion

A coherent patenting strategy can result in a very valuable patent portfolio. The best patenting strategies ensure that, where possible, a product is protected not just by a single patent on the core idea, but by a variety of patents protecting different aspects of the product. This ensures that even if one patent is vulnerable to challenge, competitors can still be kept out of the market.

Where a patenting strategy really comes into its own, is in ensuring that the money invested in patents is spent in the most cost–effective manner. In the real world, all companies have cost constraints and no patenting budget is infinite. Skilled professional advice can guide a company towards timely, broader protection for more important inventions, and narrower, cheaper protection for less important, subsidiary ones. By constantly considering the return on investment and the reasons for the breadth or otherwise of protection for an invention, businesses themselves can develop a coherent, focused and highly valuable patent portfolio.

Most crucially, though, a patenting strategy provides companies with the compass and map needed to enable them to make wise choices about when, where and how to secure IP rights for which inventions. Companies whose balance sheets show a clear understanding of where patenting fits in their overall business strategy are more likely to thrive and attract investment, in good times and in bad.

Nicholas Fox graduated from Pembroke in 1993. He is a patent attorney and solicitor at IP Asset LLP. If the article raises any questions and you would like to contact him, he can be contacted at Nicholas.Fox@ipasset.com

Peter Cowley

Peter Cowley may be an Angel, but some of his charitable work is supported by a former BBC bad boy.

When I met Peter Cowley recently he was still buzzing from the opening of the new Advicehub, the new Cambridge Citizens Advice Bureau co-located with other specialist advice-giving charities. Peter has been a chair and treasurer of various CABs for the past 12 years and most recently was co-chair for Central England. For the past 18 months he has been working to secure and refurbish the old Anglia Photoworks building on Devonshire Road, near Cambridge railway station, and on July 12th the fruits of his hard work were realised when Bank of England Governor Mervyn King opened the new £1.6 million centre.

Peter Cowley is passionate about his charitable work which extends far beyond CAB. For many years he has been a trustee and Chair of Focus12, an independent charity providing drug and alcohol rehabilitation (Russell Brand is a very supportive patron!), and is also a trustee of the Cambridge Centre for Sixth–form Studies (CCSS). Recently, Peter undertook work as a volunteer for the British Red Cross, where he led a project for the UK head office on first aid pricing strategy at public events.

Despite all this, and his work as director of the Cam Contract Bridge Centre (he is a very keen and accomplished bridge player), Peter finds time not only for his own companies but also for the Cambridge Ring. He is a member of the Ring Council and is an enthusiastic advocate of the Ring's mentoring scheme. Indeed, Peter has successfully mentored a number of the Lab's graduates over the past few years and is currently mentoring several of the Lab's research associates, two of whom — Salman Taherian and Marcelo Pias — founded Globosense.

So when I met Peter, I asked him about his mentoring activities and the projects he has been involved with including Globosense.

"In the last six years, I have mentored many Ring members, mostly from the point of company start-up, though also members who are mid-career. A few of these have morphed into small shareholdings and non–executive director positions. One of these, with Martin Kleppmann, led to a successful sale to a local software company, Redgate, and Martin has gone on to raise $1m in the Valley with Rahul Vohra and another of my mentees, Sam Stokes. Globosense has novel technology and ideas to save energy/CO2 using behavioural change. 'Sensing and making sense of data' is their motto. The company has just completed a TSB funded project on energy efficiency within various Whitehall departments. I am setting up the associate/mentoring program for ideaSpace — an incubator in the Hauser Forum near the Computer Lab. I am also part of the mentoring programme for a livery company (the Information Technologists'), and I provide finance mentoring for an EEDA programme."

Recently, Peter has also become an Angel investor in and chair of Eluceda, a York-based company that has being developing a system to detect MRSA many times faster than current technology allows.

"I met the principal of Eluceda through a government-funded R&D project to track pharmaceutical drugs from the point of manufacture to the point of consumption, by combining several overt and covert UK technologies. We formed Eluceda to use novel genetic and detection technology to speed up the recognition of MRSA on a nasal swab from about 90 minutes to 5 minutes. With the market in the UK alone worth more than a billion pounds, this is exciting in itself, but it also encouraged me to learn about bio-technology, as it is my first investment in this field."

Peter's enthusiasm and interest in start-ups has led him to become a member of the Cambridge Angels. Members invest in and mentor high-quality start-up and early-stage companies, usually in technology and bio–technology. I asked Peter about his involvement with Plumis, a spin-out from Imperial College and the Royal College of Art, and winner of the James Dyson Award 2009.

"Plumis pitched to the Cambridge Angels in early 2010 and I was attracted by the great team they had formed, the

congruence of technology and use in construction (both areas of interest for me), and the potential of a significant market in the UK alone. I have led five local Angels to invest in Plumis and I will take a non–exec board position to add value to Plumis's growth. The Cambridge Angels see well over 100 business plans a year; 40–50 entrepreneurs make it through to pitch to us. If you have an idea which may need funding, do get in touch."

But what of Peter's own companies? Peter started his career working for Logica, when it was 1% of its current size, helping automate a brewery and an international telephone exchange. Five years of intense fun followed in Bavaria, enjoying the Alps and the beer, and setting up a computer hardware manufacturer, before returning to Cambridge to form Camdata. Camdata is now over 25 years old and still designs and manufactures specialist rugged computers and embedded security devices. A division of Camdata, ZedCam, develops covert camera systems for the police, local authority and corporate markets.

At the moment Peter is marketing a new product developed by Camdata — MeLock, a simple device that locks your computer when you're not there. Indeed, recently he came to the Computer Laboratory to attend the Security Group's informal Friday gathering to talk about it.

"The concept arose from the general public sharing a small room with an interviewer/adviser. If the adviser leaves the room, then the client will have access to their own data and possibly others, unless the computer is locked: a potential privacy nightmare. The MeLock comprises a USB stick emulating a keyboard and a wearable activator, configured as an active RFID tag. The distance between the devices is continuously measured and if it exceeds a certain

(adjustable from about 2 metres to 10 metres) distance, then the computer is locked using the standard Windows security method. There is also an accelerometer to detect if the activator has been taken off (it then locks the computer) and to increase battery life. We see applications in financial services, healthcare and other shared use spaces. Presenting to Ross Anderson's Security Group was very useful as we brainstormed other market sectors and potential problems with, and enhancements to, the product."

In addition, Peter owns Starfish Developments, which has built five town houses and undertaken many refurbishment projects including a 14th Century grade 2* listed cottage.

At the end of our chat, I felt exhausted just hearing about Peter's activities. Does he have any time to relax — apart from sleeping?

"Having complete control of my diary means I can prioritise time to play bridge, squash, badminton, racket ball, and I am contemplating learning real tennis. When given a chance I ski, fell-walk and love to travel. Following a family tragedy last year, I am switching off (well, not my iPhone/iPad etc.) for two months in 2010 to travel around the world in six or seven trips."

As we parted, Peter was off to yet another meeting, while I was off for a good lie down!

For more information on MeLock visit http://www.melock.com/

If you are interested in finding a mentor, please contact the Ring office.

Byte Night Cambridge — Friday 8th October

For the first time Byte Night will be taking place in Cambridge and a host of businesses will join forces to raise money for children's charity Action for Children. The money they raise helps Action for Children tackle the root causes of youth homelessness.

Byte Night is the IT industry's annual sleep out in aid of youth homelessness. Each year, over 700 people from the IT and business community give up their bed for one night to experience a little of what it might be like to be homeless. Byte Night Cambridge is one of five sleep-out events taking place across the country in October, with the others happening in London, Edinburgh, Thames Valley and Manchester respectively.

Byte Night all began 12 years ago when 30 individuals from the IT industry slept out and raised £35,000. Since then the event has grown in number and raised almost £550,000 in 2009 alone. Patrons, sponsors and sleepers include celebrities and leading figures, CIOs, systems developers, business managers, marketers and more.

Byte Night Cambridge is supported by many of the area's top businesses and over 60 sleepers will bed down for a night in the great outdoors at Cambridge Science Park on Friday 8 October.

Richard Sharp, an alumnus of the Computer Lab and CS DoS at Robinson, is currently trying to organize a Byte Night team consisting of Cambridge Computer Scientists. Please contact him if you're interested (rws26@cam.ac.uk)

Xsilon

Russell Haggar hopes Xsilon will help us curb some of our eco-sins

TR: Russell, can you tell me about your career prior to Xsilon?

RH: I've been kicking around the computing and electronics industries since I was a sponsored student at Marconi in the late eighties, and was propelled into the world of datacomms technologies off the back of the Lab's interest in computer networking when I landed at Madge Networks after graduating. It was like walking straight back into one of Ian Leslie's lectures.

Madge was a leader in token ring networking which, in the early nineties, was still giving Ethernet a run for its money. As a design engineer, I had great fun chalking up several industry firsts: first product fast enough to load up the entire network (all 16 Mbps of it) from a single node, first full-duplex token ring technology (what is known these days as LAN switching), and delivering our first ATM–based product. I moved on from there to set up an Internet and datacomms consulting practice at Scientific Generics in Cambridge, where we designed Europe's first ADSL–delivered IPTV offering, built a leading-edge broadband access switching platform, and developed and launched Tesco's ISP offering.

I went on to join Element 14, a VC–backed semiconductor start-up that was born from the remains of Acorn Computers, where I found myself working alongside some of my teenage computing heroes. We had a great product that led the way for mass-market roll-out of ADSL services, and we sold the business to Broadcom at the very peak of the 2000 bubble. After that, I joined venture capital firm Prelude Ventures specialising in early–stage high-tech businesses, and led three investments as well as helping out across the rest of the portfolio. I was a founder partner of DFJ Esprit, formed by the merger of Prelude with the Cazenove ventures team, but later opted to join one of my portfolio companies (SiConnect) to create and implement a new go–to–market strategy for their powerline technology and to raise further investment. I've spent the past two years on various consulting assignments while working on the Xsilon proposition with Mike Baker, my co–founder.

TR: There is an acute interest in energy efficiency, with many companies producing devices and services that they hope will make home energy management more attractive. Can you explain home-area networks (HANs) and what criteria they must meet to be successful? Can you explain how Xsilon's powerline technology will help consumers reduce their energy consumption?

RH: One of the fascinating aspects of greentech is how ill–defined many of the terms are at the moment. If you were to introduce me to ten different players in the greentech industry, I reckon I could tease out of them at least twenty different definitions of "smart grid", "smart metering", or even "home-area networks". I am sure that this will start to settle down once we start to see real products and services being rolled out beyond the early–adopter communities.

At the moment, the energy companies who are about to start installing smart meters into everyone's homes see the HAN as a simple point–to–point link between the meter hidden somewhere under the stairs and a user–friendly display on show elsewhere in the house. This is almost always going to be some form of radio connection, and barely merits the moniker of a "network". Much of the activity within governments and the energy industry at the moment is involves getting smart meters installed and connected, but this concept of the HAN is extremely limited compared to what is already happening in the after–market. It is now pretty widely acknowledged that smart metering *per se* will do little for the householder, as "whole house" consumption information is too coarse to provide any insight into energy usage patterns. A much finer granularity is needed, and there are some great products already in the market that allow consumption to be monitored at a per–appliance level. However, what they need as a communications fabric is not provided by any existing off–the–shelf comms solution, which is where we come in.

Our vision of the HAN, which we call HAN 2.0, encompasses connection throughout the house for all appliances, even delivering "IP to the light bulb" if you so desire. To do this requires cost, size, reliability and power consumption goals which are beyond the reach of radio and powerline solutions today. We were able to take a clean-sheet approach

to our design, unencumbered by any legacy product range, and have created a solution that combines the reliability advantages of powerline with the cost, size and power consumption benefits of an RF solution. Our solution is easily retrofittable to existing homes and is fully standards-compliant, meaning that it is a genuine mass-market offering. We are already in conversations with power companies about how our technology can become a platform for householders to manage down their electricity demand, to shift their usage patterns into less busy parts of the day, to support feed–in tariffs and to implement time–of–day usage billing. The end result is to reduce householders' bills at a time when energy prices are starting an inexorable upwards rise, and to enable the power companies to extend their finite generation capacity to support an ever–rising base load.

TR: I believe you showcased it at the Low Carbon Up Fest held in April. How was it received?

RH: Very well indeed. The event had a great mix of startups, industry veterans, academics and even investors. It was our first official outing, and we felt that we were pushing all the buttons that the other presenters were saying needed to be pressed. It's fair to say that in every single engagement that we've had, whether in commercial meetings or at industry events, we've had a clear signal that we're onto something important.

TR: How long before it's available and what's it likely to cost?

RH: Well, we're a semiconductor company, so it's hard to get it all done overnight. However, our innovation doesn't require state of the art, bleeding edge foundry processes: we're targeting 130nm geometries rather than 45nm. This means that our design iterations are shorter and cheaper, and we're more likely to get it right first time. Once we're fully funded (we're out fundraising at the moment) we'll be able to demonstrate our product within six months and are looking to have product available commercially within a further 24 months. We're targeting a bill of materials cost of under $5, which is unheard of in powerline circles and puts us firmly in the ballpark defined by wireless technologies. This would equate to a smartplug build cost of about $15, which is around a third of what powerline can achieve today.

TR: Some consumers are aware of the need to save energy both to reduce pollution and to save money. However, how can more people become engaged? Will consumers manage their energy consumption as they manage their finances online?

RH: Sadly, despite all the good work of the environmental movement, the likeliest driver for mass-market engagement in the near term will be financial. Energy pricing has reached a level where consumers are really starting to notice and, thanks to a whole range of factors, prices can only go up from here. We are a platform on top of which a diverse range of interaction models can be built, and we foresee all sorts of opportunities for consumers to manage their energy usage patterns — manually or automatically, from within the home or via the Internet, by the householder or by the energy utility, on a product basis or perhaps even as a managed service. There is scope here for many pieces of a jigsaw puzzle to come together, eg blue–chip branded white goods appliances connected via a HAN 2.0 to an in–home monitoring platform (a PC or a TV), with per–device usage tracking courtesy of Google Powermeter or Microsoft Hohm, using data communicated via the broadband connection and/or via the smart meter, integrated into the energy utility's billing systems so that certain appliances can be automatically activated at low–demand periods (whenever that might turn out to be).

TR: What do you do to reduce your energy consumption at home?

RH: When you look around different people's homes, it's fascinating how there is rarely a single approach that makes sense everywhere. My kids come home from school having been taught to save the planet by turning off all the house lights (ie, those that they left on in the first place), and yet in many houses this makes very little difference to the overall level of energy consumption. However, in those buildings that succumbed at some stage in the past to trendy inset ceiling halogen lighting, the effect of leaving the lights on in just a couple of rooms can be substantial. The approach that does work everywhere is straightforward awareness: I've migrated most of my halogen fittings to LED lighting, but I'm also acutely aware of the load imposed by an underfloor heating system and the central heating pump, so I modify the thermostat and timer settings accordingly.

TR: What is your biggest eco-sin?

RH: On the face of it, we have three cars for a household of six, which seems excessive. However, two of those cars are candidates for replacement by electric vehicle technology in the near future, and electric vehicle charging just happens to open up whole new opportunities for Xsilon's technology!

TR: Where do you see Xsilon in two years' time?

RH: We'll be at the point of launching our commercial product, seeing four years' hard work coming to fruition — hopefully.

Red Beacon

Forget directory enquiries and Yellow Pages. **Aaron Lee's**
RedBeacon offers a smarter way to book a plumber.

TR: Aaron, can you tell me about your career prior to founding RedBeacon?

AL: Sure. I was an undergraduate at Trinity Hall, which is the fifth–oldest Cambridge college. It's a relatively small college well known for its friendly and unpretentious atmosphere. I had been passionate about Computer Science from a very early age and so was very excited to be admitted to the best Computer Lab in the world. While an undergraduate, I did an internship at K–net which was a leading start-up focused on transmitting audio/video packets using ATM. After Cambridge, I went to Princeton to further my studies. During my PhD years, I interned at Bell Labs, NASA Ames Research Center, Microsoft

Research and NVIDIA. I believe that Computer Science is a combination of art and science, and requires a deep appreciation of the real world — it's not just about solving problems in a vacuum.

On graduation I joined a startup called iVAST to build an end–to–end content delivery platform. It was the time of the crazy Internet bubble and I learned many valuable lessons. After that I spent a few years at Bosch building in–car infotainment systems, by merging real-time local information with 3D navigation data. In 2004 I joined another start-up called Google, and was one of the founding engineers building the entire Google Video platform. Shortly after Google

acquired YouTube, I led the monetisation of YouTube with AdSense and AdWords. My experience there gave me a deep understanding of search and advertising.

TR:What prompted you to start RedBeacon? How does it differ from the typical search directory likeYell.com,Yelp or Citysearch?

AL: Before we dive into RedBeacon, let's look at how people are requesting and consuming local services today. The local services market is huge (many billion dollars in the US alone) and ranges from popular services such as builders, plumbers, electricians, handymen to long-tail occupations such as lighting specialists, gas installers and dog walkers.

Typically, when people are in need of these services they either phone their family and friends, go online (Google, Yell.com, BTexchanges. com) or visit ratings/review sites such as Yelp or Citysearch. Once they've browsed the pages, they will pick up the phone. It's a very frustrating and time-consuming process, added to which the customer has no idea what the job is going to cost. These websites simply provide a list of vendors and it's up to the customer to do the hard work.

We thought there was a better way to solve the problem, and make what has been a very inefficient process efficient!

So, instead of taking a few keywords and returning hundreds of search results, we take the customer's needs (when, where and what needs to be done) and send it to our sophisticated matching engine, using techniques such as machine learning and natural language processing. This produces a list of service providers who can do the job at the time and place required. Once the service providers receive the alerts (by e-mail, text message or fax), they bid on the job with a price quote. In a few hours, customers receive three to five bids with profiles, ratings/ reviews and pricing information, as well as a "Book it" button. With one click, the job is booked and there's been no need to pick up the phone.

We are transforming the way people are getting local services — by providing a platform which combines Yelp (where you can see ratings and reviews), eBay (where you receive multiple competing bids) and OpenTable (where you can book online without picking up the phone). It's such an amazing experience that customers are coming back to our site within a month or two to schedule their second job.

TR:Your customers receive an actual quote before an appointment is booked? How do they provide sufficient information to allow the service providers to make an actual quote? For how long is each quote valid?

AL: In most of the cases, our customers receive an actual quote for their jobs. These are jobs that are fairly easy to quote, such as maid service, carpet cleaning, house moving, babysitting, window cleaning. We support fixed-fee jobs as well as hourly pricing. For other jobs like kitchen remodeling, we have an option called "On–site estimate" — this allows providers to supply a quote after an on-site visit.

There are two big advantages. First, it gives customers a complete profile (which includes business description, ratings/reviews, port-folio pictures, professional associations and insurance information) before they click the "Book it" button. Second, providers don't pay any commission until they get selected, which means receiving job leads is totally free and is based purely on performance. When the job details do not contain sufficient information, there is a public Q&A: customers can supply photos or more information. The appointment time is valid for 2–3 days depending on the auction duration. After that the quote is valid for the next 30 days, but the customer has to arrange a new appointment time.

TR: How many service providers are currently registered? Do they have to pay to register with you?

AL: We were very careful about our launch strategy when we started back in September 2009. We confined our service to the San Francisco Bay Area as we wanted to take time to perfect our product before we expanded throughout the United States.

We currently have several thousand service providers. Because our business model is performance-based and very provider-friendly, there's no up-front cost or registration fee. We don't get paid if our providers don't get paid. Hence there's almost no friction in signing up and providers love it. Some of them even got smart phones so that, when they're not in front of a PC, they can quote remotely.

TR: Can you tell me about RedBeacon's recently launched Friendly Advice feature?

AL: Friendly Advice (FA) is one of my favorite features because it captures the social recommendations that were made off line (when you ask your friends for advice on local services) and puts them out into the on-line world. Here's how it works: when you submit a job on RedBeacon, you can choose to Facebook Connect your account and we will post your job on your Facebook wall. From there your friends can vote, comment as well as recommend new providers.

After that, we post to your friends' walls saying (eg,) "I just helped Aaron choose a carpet cleaner on RedBeacon". Not only can we spread the product virally, we are also making use of the information collected to help rank our providers. Research has been done to indicate that people trust their friends' recommendation much more than websites' ratings/reviews.

TR:What is RedBeacon's business model?

AL: Our business model is to provide a completely free service for our customers, and only charge a small fee (10% of the job value) to our providers if they win the job. For an on-site estimate, we charge a small fixed fee if the provider is selected for an estimate. In both cases, we want to make sure our providers are getting value rather than wasting traditional marketing dollars on advertising. Given that we have no registration fee or up-front fee, it literally only takes minutes to sign up as a provider. They have certainly been very happy with our vibrant marketplace.

TR: RedBeacon is currently available in the San Francisco Bay Area What are your plans for expansion? Have you any thoughts of taking RedBeacon overseas?

AL: We have big plans for our expansion and are very excited about it! As we are closing our first round of financing in the next week or two, we will be aggressively building up our team (so far we have two developers, including me) and expand into multiple cities. We are also working with one of the UK's biggest online phone book companies to provide our platform to power their experiences. We have pilots currently underway and will soon expand into other major UK cities.

TR:What are your plans for the future?

AL: One of the things I enjoy a lot is running usability studies and talking to our customers and service providers. It's very interesting to hear their perspectives and the fact that RedBeacon allows any local service professionals to create an on-line "resumé", receive job leads and transact on line is very powerful. Cracking the local services challenge is no easy task and certainly would take much longer than a traditional Internet company. It will be a long battle, but I am committed and optimistic that in the not-so-distant-future, RedBeacon will become a household name.

Since the interview, RedBeacon has completed a $7.4 million Series A round of funding from Mayfield Fund and Venrock.

For more information visit http://www.redbeacon.com

Job Bulletin Board

July

lastminute.com
- *Senior innovation developer*

Red Gate Software
- *User experience graduate*
- *Test engineer*
- *Web UI developer*
- *Product manager*
- *Software engineer*
- *Graduate test engineer*

Acunu
- *Kernel engineer*

Progress Software (Apama)
- *Software engineer*

June

Linguamatics
- *Application/resource developer*

GL Garrad Hassan
- *Renewable energy — systems developer and application support*
- *Renewable energy — C#, C++ user interfaces lead developer*

Spektrix
- *Web application developers*

Autonomy
- *Software Engineer*
- *Technology specialist*
- *Developmental support*

Zeus Technology
- *Graduate software engineer*
- *Senior Software engineer*
- *Software engineer*

Cambridge Sillicon Radio
- *Software engineers*

Visit the Job Bulletin Board in the Business and Professional section of the Ring Web site.

Hall of fame news

Acunu

Acunu is developing new storage techniques for "big data". They have grown to 15 people (and are still hiring), have moved to London, and are looking for beta customers for their release at the end of the summer. If you would like further information, please contact founders@acunu.com.

blinkx

blinkx, the largest and most advanced video search engine, has launched a new API which gives developers of mobile applications and sites access to blinkx's index of MP4 video. blinkx's Mobile Video Index includes millions of videos from its extensive network of top-tier content partners, including the Associated Press, CelebTV, Howcast and Lonely Planet.

Camvine

Dan Clemens has joined Camvine as CEO. He takes over from Camvine's founder, Quentin Stafford–Fraser, who will stay with the company as Chief Scientist.

Green Custard

Green Custard has had people, rather than sheep, flocking to play its Extreme Sheepdog Trials, which was runner–up in the first AppsFire competition. The aim of Extreme Sheepdog Trials is to guide your flock of sheep using your sheep dog through three game-playing zones of five levels each, ranging from simple to fiendish. For greater authenticity you can play the game like a real shepherd by whistling into you iPhone or iPad.

Jagex

Jagex, the browser games developer and publisher, has announced the development of Stellar Dawn, the studio's latest massively multiplayer on-line role–playing game (MMORPG). The game, which is scheduled for release next year, will offer players the opportunity to explore vast worlds of futuristic environments and engage with an extensive backstory as they progress through the game. Stellar Dawn will be Jagex's biggest release to date.

Netronome

Netronome has been named as a finalist for the 2010 Pittsburgh Technology 50. It has been shortlisted in the Information Technology category along with eight other companies. In May, Netronome closed a $23 million Series D round of funding, led by new investor DFJ Esprit.

Operis

It was with great sadness that Operis plc announced the death of Hugh Daniel (SS BA80) on 22nd May 2010. Hugh co–founded Operis with fellow Compsci David Colver (C BA80) in 1997.

Rapportive

Rapportive, co-founded by Martin Kleppmann, Sam Stokes and Rahul Vohra, has raised an impressive seed round of over $1 million, with participation from some well-known angels including Paul Buchheit, the creator of Gmail. Rapportive is also part of the latest batch of Y Combinator companies: Y Combinator is a new kind of venture firm specialising in funding early-stage start-ups, mostly in software and Web services.

RealVNC

RealVNC's VNC® Viewer has proved a hit on the iPad. iPad users worldwide are using the application to connect and take full control of office and home computers from anywhere in the world. VNC® Viewer is already available on the iPhone and iPod touch, and recently became a universal app with support from the iPad. The app enables personal users to provide remote support to friends and family, access home computers whilst travelling, and view Flash–based Web sites. VNC® Viewer has also been recognised as a practical business application for organisations that have adopted iPhones and iPads as a business tool. It enables IT staff to support colleagues remotely during the day, as well as providing 24/7 access to remote desktops or servers for troubleshooting and checking logs wherever they are, reducing out of hours trips to the office.

Spektrix

The Hampstead Theatre in London has adopted Spektrix's on-line and box office booking system.

TouchType

TouchType has launched SwiftKey™ Beta on the Google Android™ Market as a free download. It can increase writing speeds by up to 50% with its powerful prediction engine, and enjoyed more than 100,000 downloads in its first week.

Ubisense

Ubisense bucked the trend and enjoyed over 50% business growth during 2009. To support new and existing customers, and to maintain its leading edge product innovation, Ubisense has expanded its operation. Ubisense has also opened up in France to support such strategic accounts as Airbus, EDF Nuclear and the French Army.

Shaun Crampton

Shaun Crampton, who graduated with a BA in Mathematics with Computer Science in 2006, is heading for Palo Alto.

When I finished my finals just four years ago, I didn't know where to start with my career. Coming from working-class Yorkshire roots, I'd been only the second person in my family (after my older brother) to go to university. My dream up until then had been to get into Cambridge. Now that I'd achieved that dream, coming out the other end with a Double First from Queens', I didn't know where to go next. All I knew was that I wanted a good work-life balance and a technical job that stretched me.

A couple of friends had been summer interns at Metaswitch Networks, then known as Data Connection. They told me tales of two-hour sporting lunch breaks and sponsored trips to the pub, balanced by challenging work and talented, friendly colleagues. After a few months of travelling overseas and doing freelance Web design work, I decided to give it a shot and submit my application.

At interview, I was impressed by how welcoming the place was and by how technically sharp the interviewers were. Metaswitch specializes in technology for communications networks worldwide, covering both carrier systems and software components. It has been building high-performance, portable and difficult technology for almost 30 years. I soon accepted when offered the job of software developer.

Starting off in a general software development team, with a supportive manager and a technical mentor, I had a chance to work on every-thing from the low–level hardware manager for our soft–switch to our end-user-facing Web UIs. Even though I was new, my skills and knowledge were valued from the start and they encouraged my natural tendency to challenge the *status quo*. I impressed by adapting quickly to the new areas I was introduced to, making a real contribution from very early on. Thanks in no small part to the computer science courses I'd studied at Cambridge, I soon got a reputation for knowing things like the obscure corner–cases of the Java virtual machine. It wasn't long before people were asking me questions as well as the other way around.

After eighteen months, I was picked for the newly formed Human Interface Technology team. The "HIT Squad" — our tongue–in–cheek nickname — branched out from traditional telecoms systems into applications for smart phones, TV, desktop, Web and high-end desk phones. It was an opportunity to do some really fun green–field work, with a great balance between prototyping on the latest gadget and delivering whizz-bang products that made our bids stand out.

My biggest challenge came when I was invited to become a manager in April 2009. As someone who'd been a hardcore techie up until that point, I was wary of swapping creativity and coding for project plans and paperwork. My fears were unjustified, however. Having settled in, I'm now doing a more technical job than before and at the same time, it's rewarding to teach and develop my teammates. I even manage to carve out some time to carry on writing code and I get to devote a portion of my time to just "making things better".

Most exciting of all, I've now been offered the chance to go out to Palo Alto, California, to head up a new innovation team. With mobile platforms on the ascendant, we're setting our sights on solving some of the hard problems left in developing mobile apps. It never occurred to me that I'd be writing this article, as I nervously wait for my flight into the unknown, just three years after joining the company.

Outside Metaswitch, as a CompSci geek, I write Android apps and build electronic gizmos just for fun. I've also been known to ride the odd roller-coaster. I'll let you know how this one pans out.

Metaswitch is hiring. To find out more, please visit metaswitch.com/ careers

Don's diary

Attending an academic conference is a rewarding experience. **Magnus Myreen** reports.

One of the highlights of being a researcher is attending conferences all over the world. I've just come back from one such conference although this time it was closer to home: the 2010 Federated Logic Conference (FLoC) combined eight medium–sized conferences on logic in computer science into a massive event stretching over two weeks in Edinburgh.

Like many other conference delegates, I stayed in University of Edinburgh student accommodation. My room was tiny, with just enough space to fit a single bed and a desk, and made me appreciate the college rooms I had enjoyed during my six years as a student. Breakfast was served in a large overcrowded campus canteen, which reminded me of an automatic chicken feeding line in "The two caravans" by Marina Lewycka, which I read on the train to Edinburgh.

Each day of the conference started with an invited talk, which was generally interesting, though some would have benefitted from greater technical detail. One of my favourites was by Gerwin Klein from NICTA, Australia, on the verification of the functional correctness of the seL4 microkernel. This work is very impressive, and I enjoyed the talk despite having heard Klein talk about this project on two previous occasions.

Talks at FLoC varied both in quality of content and presentation. Code seldom found its way into presentations, but sometimes Greek letters outnumbered Latin characters! In my opinion the best talk of all was by J Strother Moore — "Theorem Proving for Verification: The Early Days". It was a highly personal talk recounting the four-decade long "Boyer–Moore project" and was filled with inspiring anecdotes, many of which involved his colleague Robert S. Boyer. The most memorable message was "Don't stop just because you're done" — meaning one should not stop once something has been shown to be possible in principle, but rather one should continue research until the task becomes practical. J. Strother Moore's impressive career shows that he has followed this principle with great success in the development of the ACL2 theorem prover.

Two papers on which I was co–author were presented. The first, given by my co–author Anthony Fox, presented our latest high–fidelity model of the ARM instruction set architecture. The second, which I gave, showed how separation logic, a logic for verification of pointer programs, can be embedded in interactive theorem provers.

The best thing about conferences is that you get to know new people. On one day I walked back to the accommodation with Sol Swards from the University of Texas. We had dinner and bumped into Tarek Mhamdi from Concordia University, Montreal. On the spur of the moment we decided to walk up Arthur's Seat and enjoyed a beautiful view of the city. By the end of the evening we were in a pub in central Edinburgh discussing everything from work and politics, to beer and the excentricities of the British!

Magnus Myreen did his BA in Computer Science at Oxford, tutored by Dr Jeff Sanders. During the summers he worked as a research assistant at Åbo Akademi University in Finland for Professor Ralph–Johan Back. After graduating from Oxford, Magnus came to Cambridge as a PhD student where his supervisor was Professor Mike Gordon. He is currently working as a postdoc on an EPSRC grant entitled "Trustworthy programming for multiple instruction sets".

You can contact him at Magnus.Myreen@cl.cam.ac.uk

Computer Laboratory news

Awards and honours

Professor Andy Hopper has received an honorary doctorate — DSc (Eng) — from Queen's University, Belfast, for services to information technology and business commerce.

Ian Leslie, the Robert Sansom Professor of Computer Science, has been elected a Fellow of The Royal Academy of Engineering. The Academy's Fellowship honours the UK's most distinguished engineers.

Dr Simon Moore, Reader in Computer Architecture, has been awarded one of the University's prestigious Pilkington Prizes for excellence in teaching.

Tim Griffin, Senior Lecturer at the Computer Laboratory, and Gordon Wilfong, have been awarded the ACM SIGCOMM Test of Time Paper Award 2010 for 'An analysis of BGO convergence properties'.

The General Board on Senior Academic Promotions reported that, from October 2010, Neil Dodgson will be promoted to Professor, Simone Teufel will be promoted to Reader, while Markus Kuhn and Andrew Moore will be promoted to Senior Lecturer.

Professor Andrew Pitts' appointment as one of the two Deputy Heads of Department ends on September 30th 2010. He will be succeeded by Dr Neil Dodgson who will serve for three years from October 1st 2010 to September 30th 2013. Professor Pitts has served as Deputy Head of Department for a total of eight years from 2000 to 2003, and from 2005 to 2010, including a term as Head of Department in 2009.

Computer Lab Open Days

As part of the University of Cambridge Open Days, the Computer Laboratory opened its doors to sixth-form students and their parents on July 1st and 2nd 2010.

The days were expertly organised by Jennifer Underhill, the Lab's Student Administration Assistant, and comprised tours of the Lab, a course presentation and demonstrations of current work and research.

If any Ring members are in touch with their local schools and would like a copy of the Lab's new student brochure, then please get in touch.