



**Brunel**  
UNIVERSITY  
WEST LONDON

2006

1806 : 1966 : 2006

# Celebrating Brunel

INCORPORATING BRUNEL UNIVERSITY ANNUAL REPORT 2005





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Cover image: Montage  
of Paddington Station  
and the University's  
Indoor Athletics Centre

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## Chancellor's Foreword

**2006** is a special year for Brunel University, a time to celebrate our achievements and to look forward to more exciting progress. We are working hard to improve the quality and impact of our research, teaching and physical environment. Indeed, we are investing £170 million on new buildings and infrastructure alone and the new Brunel is being revealed at an extraordinary rate – vibrant, modern and prepared for the challenges of the increasingly competitive world of higher education. To thrive in this market place requires commitment and energy – qualities exhibited in huge quantities by those who work and live at Brunel.

There is no doubt that we face many new challenges. Changes in how undergraduates pay for their education will make them more discerning than ever in their choice of university and we have to ensure that Brunel maintains its edge against strong competition. How we prepare for the imminent Research Assessment Exercise and its implications for research funding is vital for our strategy to be research-led. And how we prepare our graduates for employment through first-rate teaching and strong links with business is also essential for our reputation as a quality university.

We are already rising to these challenges. We have set up scholarships to attract excellent students from the widest possible backgrounds, and we continue to carry out ground-breaking research that has a positive impact on society. We were praised by the Quality Assurance Agency for the quality of our teaching and our diverse community of students.

We have also just succeeded in sealing what we believe to be a unique funding agreement for a university. Brunel has been able to raise £100 million over a 35-year period to finance its new student residences and, through the use of a long-term hedging arrangement, to take advantage of historically low long-term interest rates that will protect us from future rate rises. We have therefore been able to fix our borrowing at keen rates, which has important knock-on benefits such as ensuring that on-campus rents for students are set as low as possible. Brunel has also secured an Aa1 rating from Moody's, the best published rating of any UK university, a reflection of the financial strength of Brunel.

Our challenge for 2006 is to build on our successes and ensure that Brunel secures its place as a university that is relevant, ambitious and able to compete with the very best. In doing so, Brunel the University will show the same spirit and determination that made Brunel the man the foremost entrepreneur of his day.

**Lord Wakeham**  
**Chancellor of Brunel University**



## Celebrating 2006

### The Birth of a Great Briton and a Great University

2006 is a milestone for both Brunel University and Brunel the man – 40 and 200 years old respectively. In adopting the name of arguably the most famous of Victorian engineers, the University sought to emulate his qualities: ingenuity and creativity, practicality and thoroughness, together with a vision of how to improve the developments of his age. Just as I K Brunel opened up new horizons for the Victorians, so Brunel University has allowed successive generations to expand their horizons by helping individuals to acquire and apply new knowledge, explore new areas of research and increase their ability to become involved in the country's creative and economic future.

This commemorative edition of the Brunel Annual Report will celebrate three key dates.

#### **1806 Birth of I K Brunel**

including an appreciation of the man and his contribution to Victorian Britain and beyond.

#### **1966 Birth of Brunel University**

including a review of some of the key dates in the University's 40-year history. It will celebrate what the University has achieved thus far but also what it continues to contribute to the wealth, both financial and intellectual, of its students, graduates and the country at large.

#### **2006 Celebrating the Brunel Name**

including news and events from the beginning of 2005 to the present day, a period that has witnessed some of the most significant and dynamic developments in the University's history.

Clockwise, from top left:  
 Professor Heinz Wolff; fMRI Scanner;  
 Brunel's Student Formula Car;  
 Cancer Research



## A Forward-looking University

Brunel celebrates 40 years as a university in 2006. Our rise since 1966 has been impressive and our reputation grows year on year. Now a university of 13,000 students – 3,000 engaged in postgraduate and research study – our special approach is to combine academic rigour with the practical, entrepreneurial and imaginative approach pioneered by I K Brunel.

The following highlights show why Brunel University is now one of the most optimistic, ambitious and forward-looking universities in the country.

- £14 million spent on 60 new research-led staff and five new research centres in the three years up to 2006
- ground-breaking research in cancer genetics and official 'world class' rankings in subjects as diverse as Engineering, Law, IT, Maths and Sociology
- the world's most cited researcher in the field of environment and ecology
- founder member of a research collaboration that owns one of the most advanced fMRI scanners in the UK
- the first university-based research centre in the education of able children in the country
- an excellent reputation for sport with Olympic gold medallists in rowing, boxing and hockey and bronze medallists in bobsleigh and heptathlon, as well as world, European and national champions in judo, fencing, gliding, marathon canoe, cycling, microlight, pentathlon, weightlifting, duathlon, and in a range of track and field athletics
- 100% 'excellent' record from Government inspectors for our teaching quality since 1999
- co-ordinating university for WestFocus, a Government-funded consortium of HE institutes that is the largest 'knowledge exchange' of its kind in the UK
- home to Professor Heinz Wolff's Institute for Bioengineering, involved in research as diverse as space technology, hi-tec homes for the elderly and enabling technology for the disabled or injured
- Brunel's Formula Student Racing Team won the Most Desirable Car in 2003, the Rolls Royce Prize for Engineering and Craftsmanship in 2004, and first prize in the Static Class in 2005





Top, clockwise:  
James Cracknell  
with Olympic gold  
medal rowing team,  
Patricia Hodge  
and Jo Brand



- a £170 million masterplan that has added a £2.5 million UEFA-class football facility and competition-standard athletics track, a state-of-the-art Assistive Technology Centre, a £7 million indoor athletics and netball centre, a brand new building for Health, a new 1250-room accommodation complex and a new Arts Centre
- the first UK university to have a campus-based Science Park – with 23 companies now based here
- with roots going back to 1798, the longest history of training teachers in the UK, holding the archives of the British and Foreign School Society, the best record of elementary education in the world
- an eclectic mix of graduates ranging from comedians Jo Brand and Lee Mack to people of influence such as Lincoln Crawford (the first black chair of the Race Relations Committee) and Margaret McDonagh (general manager of Express Newspapers), to stars of stage and screen such as actor Patricia Hodge and commentator Paul Dickenson, to some of the top sporting names in the country such as James Cracknell, Audley Harrison and Richard Hill
- a net annual value of more than £190 million with an income for research grants and contracts last year of over £10.5 million
- one of only two universities outside the 'London corridor' nominated to provide facilities and accommodation in the London bid for the 2012 Olympics

“Hello, Jo Brand here and yes I am a Brunel old girl although obviously I don’t mention it very often or my career in telly would be dead in the water. You can only get on the BBC if you’ve been to Oxford or Cambridge or you sleep with a few execs, neither of these choices being open to me.

I had an absolutely wondrous time at Brunel and still have a group of very close friends whom I met there, and we often bore each other into comas with happy tales of the old days. I managed a respectable 2:1 and completed my training as a psychiatric nurse, which I did for six years before the comedy took off.

Highlights of Brunel for me were many nights in the bar laughing, some sublime and some appalling bands in whatever that big hall next door was called, my Sociology of Science course which involved existing on another planet for some months, standing for president of the Union and getting 17 votes, and living above a fish and chip shop in West Drayton. These are, of course, the printable bits!”







# Isambard Kingdom Brunel

## A Man of Genius

**Brunel** would be revered as an engineering genius on the basis of a just a handful of his achievements. His first great ship, the *Great Western*, was the first steamship to engage in transatlantic service. His second, the *Great Britain*, was the world's first iron-hulled, screw propeller-driven, steam-powered passenger liner. The third and last, the *Great Eastern*, was by far the biggest ship ever built up to that time and went on to lay the transatlantic cables that formed the first telecommunications link between Europe and the USA.



On the Great Western Railway (which incidentally carried the world's first postal train), the Box Tunnel was the longest railway tunnel of the age. The Clifton Suspension Bridge was the longest single-span road bridge in the world. The brick arches on Maidenhead Bridge were so wide and flat that many expected them to collapse as soon as the supports were removed. Needless to say, they didn't, and still carry intercity trains from London to Bristol. But the superlatives keep coming. We can add to these engineering feats his ground-breaking work on prefabricated buildings and drainage systems that transformed medical conditions in the Crimea. Then there are architectural

projects as diverse as the traditional elegance of Temple Meads in Bristol, the innovative iron and glass structure of Paddington in London and a magnificent wrought iron bridge at Saltash that still looks modern today.

One of Brunel's greatest gifts, however, lay in his ability to sell his ideas, raise funding, inspire his workers and maintain the high standards that ensured the success of his projects. Of his performance at hearings in the House of Lords, it was said '... rapid in thought, clear in his language, and never said too much, or lost his presence of mind.'

He stayed fully involved with all aspects of his projects from first drawings to finished article, and was as passionate about the aesthetics of a design as about the calculations. In writing to his brother-in-law about the Clifton Bridge, he said: '...of all the wonderful feats I have performed..... I think yesterday I performed the most wonderful. I produced unanimity among 15 men who were all quarrelling about that most ticklish subject – taste.'

If you add to all these qualities his ability to cross-fertilise methods of construction and uses of materials, it is not surprising that he is regarded as one of the greatest Britons of all time.

Opposite: GWR locomotive *City of Truro* crossing Saltash Bridge. Photo credit: Chris Milner/The Railway Magazine

Above: The *Great Britain*



The triple 'bow and string' construction bridge carrying the branch line from Slough to Windsor.



## Brunel and his Times

**1806** Brunel born in Portsmouth, the son of a distinguished French engineer, Sir Marc Brunel, who had come to England at the time of the French Revolution. Unlike most engineers of the time, Isambard Brunel received a sound education and practical training – partly in France – before entering his father's office at the age of 16.

**1825** Brunel began directing work on his father's Thames Tunnel which ran between Rotherhithe and Wapping. It was opened in 1843.

**1830** Wins the second Clifton Bridge competition, and construction began the following year. However, by 1843 when the money ran out only the piers had been built. The bridge was eventually completed by members of the Institution of Civil Engineers after Brunel's death and opened in 1864. The now famous suspension bridge was designed as the longest single-span road bridge – almost 215 metres – in the world at that time.

**1832** Begins professional association with the Bristol Docks Company. Brunel was responsible for the redesign and construction of many of Britain's major docks, including Bristol, Cardiff and Milford Haven.

**1833** At the age of 26, he was appointed engineer to the newly-formed Great Western Railway. The London-Bristol line opened in 1841 and most of the great civil engineering works on the line – viaducts, tunnels, bridges – are still used by today's high-speed trains. He eventually engineered over 1,200 miles of railway, including lines in Ireland, Italy and Bengal.

**1837** Launch of the Great Western, designed for the GWR Company to operate the Bristol-New York route, becoming the first steamship in regular transatlantic service. She crossed the Atlantic, propelled by paddle wheels driven by a two-cylinder steam engine, in 15 days, half that of a sailing ship.

**1843** Launch of the Great Britain (pictured above), which probably carried more passengers between England and Australia than any other ship in the 19th century. She was the largest ship in the world at the time and the first propeller-driven, steam-powered iron ship to cross the Atlantic. She served as a troopship during the Crimean War and the Indian Mutiny but, in contrast, she also carried the first ever English cricket side to tour Australia.

**1852** Brunel's bridge over the Wye at Chepstow lacked the elegance of many of Brunel's other work, constrained as it was by a site that had a 37-metre cliff on one side and a low-lying alluvial plain on the other. Brunel also had to accommodate over 15 metres of headroom at high tide (the second highest tidal range in the world). His asymmetrical bridge – one of the first open-web girder bridges in Europe – comprised one half with three 30-metre plate girder spans, and the other half with a 100-metre span of quite different design. The bridge was dismantled in 1962, but the University has an original girder section displayed on a plinth alongside the cutting from the Uxbridge branch line of the GWR which bisects the Uxbridge Campus.

**1855** Between the request by the War Office in February to the end of the same year, Brunel's unique prefabricated hospital for Scutari in the Crimea was designed, shipped out, assembled on site and had a full quota of 1,000 beds. Prior to its erection, Florence Nightingale reported that three men were dying from disease for every man dying in battle. The structure of self-contained wards and trunk drainage ensured that only 50 out of 1,500 sick and wounded died at the new hospital.

**1858** When the Great Eastern, or Leviathan, was launched, she remained the largest ship for another 50 years. She had both paddle and screw propulsion and was designed to carry 4,000 passengers. After a short transatlantic career, she was converted to a cable-laying ship, beginning a 100 years of transatlantic communication by cable.

**1859** Opening of the Royal Albert Bridge at Saltash. Brunel's design consisted of two wrought iron trusses each spanning over 140 metres and weighing 1,000 tons with a clear headway for river traffic of 30 metres. The underwater portion of the central pier was a cylinder over 10 metres in diameter, and the base is nearly 25 metres below high water. It still carries all the rail traffic to Penzance.

**1859** Brunel died on 15 September. At the time of his death he was vice-president of the Institution of Civil Engineers, and left one son and wife Mary.

The Brunel website includes articles on I K Brunel taken from the University archives: [www.brunel.ac.uk/about/history/ikb/](http://www.brunel.ac.uk/about/history/ikb/)





A special set of stamps to mark IKB's bicentenary was introduced in February 2006 (reproduced by kind permission of Royal Mail Group plc). A limited edition First Day Cover with an illustration of the University is also in production.

## Highlights of the Great Western Railway

- **Paddington Station**, completed in 1854, comprised a three-span iron and glass structure of 213 metres by over 70 metres, with a 31-metre centre span, all supported by 189 wrought-iron arched ribs and 69 cast iron columns.
- **Maidenhead Bridge**, opened in 1839, had to meet the clearances specified by the Thames Commissioners. Brunel's design comprised two brickwork arches each of 39 metres span and a rise of only 7.3 metres – the widest and flattest brick arches in the world.
- **Box Tunnel**, begun in 1836 and the last part of the Bristol-London line to be completed in 1841, runs a completely straight course of nearly 3 kilometres through the Cotswolds. Using nearly 34 tons of stone and 30 million bricks, there was just a 5cm error in alignment when the two ends were joined.



The 275-metre long Wharncliffe Viaduct still carries London-Bristol trains at an elevation of almost 20 metres across the Brent Valley in West London.

- **Temple Meads Station**, completed 1841, still survives as the British and Commonwealth Museum in Bristol.
- **Broad Gauge** Although other lines around the county were being constructed on tracks the same width as those for coal trucks (just under 1.5 metres), Brunel built his railway with a gauge of just over 2 metres. This gave superior ride and stability

and allowed higher speeds and passenger capacity, but the greater quantity of track already existing in narrower gauge meant that the government eventually had to adopt it as the standard, and broad gauge track was converted. The first broad gauge locomotive took to the rails just one mile from the Uxbridge Campus at West Drayton station in 1838, and broad gauge trains passed through the cutting between Cleveland Road and the main University carpark.

### First Brunel Lecture – January 1958

*L T C Rolt, famous for his definitive biography of I K Brunel, spoke, appropriately, on the great man. A reprint of his lecture was subsequently available to purchase for 1 shilling, but is now reproduced on the Brunel University website.*





1968

40 Years of Brunel University



2000



**1798** The forerunner of **Borough Road College**, the **Joseph Lancaster School**, was founded, the oldest teacher training college in the British Commonwealth. It moved to Borough Road in Southwark in 1804 and to Osterley in 1889.



Joseph Lancaster

**1881** Chiswick School of Arts and Crafts founded, becoming **Acton and Chiswick Polytechnic** in 1899.

**1878 Maria Grey College** founded 'to raise teaching to a profession as honourable and honoured for women as for men'. The College completed its move to Twickenham by 1969.



Maria Grey

**1889 Shoreditch Training College** founded, becoming Shoreditch College of Education in 1918 and moving to Cooper's Hill at Runnymede in 1951. The property at Cooper's Hill was originally a private residence, but was first used for educational purposes when it was acquired in the 1870s as the future home of the Royal Indian Engineering College whose work was to train engineers, telegraphists and forestry officers for the public services in India, Burma and elsewhere. The RIEC moved out in 1906 and the site was acquired just before World War II by the London County Council which opened a temporary Emergency Training College there in 1946. The closure of this college in 1951 provided a home large enough to accommodate Shoreditch College's growing numbers of students.



Shoreditch College

**1928 Acton Technical College** established. The first step in the establishment of Brunel University was in 1928, when Middlesex County Council transferred its Junior Technical School, founded in Chiswick in 1910, to Acton in west London. Here it grew rapidly both in size and reputation, winning the respect of parents, employers and the education authorities alike. Its original purpose was to provide recruits for local industry and early statistics collected by HM Inspectors show that between 1929 and 1933, 90 per cent of boys leaving the school found employment in the engineering and building trades.

When war broke out, Acton Technical College as it was now known, had to adapt its courses to suit wartime needs. These now included basic technical instruction for women; domestic and clerical classes for members of the Women's Services (ATS, WAAF and WRNS); and a degree-level course for engineering cadets.

**1957** Acton Technical College is divided into two, creating the new institution, **Brunel College of Technology**.

Acton College had continued to expand and now concentrated on the provision of more advanced courses and in particular, degree programmes. HM inspectors who visited in 1952 were extremely impressed by the scope, the appeal and the widespread recognition accorded to the College's range of courses and concluded that teaching was of a high order with excellent exam results. However, the lack of facilities at Acton was holding back the College's growth. So the decision was made to divide the College into two. Acton Technical College remained in the existing buildings while the second, which was to be situated in new buildings, was named Brunel College of Technology.

The new College focused on the education of technologists and, in particular, it pioneered the concept of 'sandwich' courses, working with local employers to establish the best model.



**1962** Brunel College is designated a College of Advanced Technology, its stepping-stone to University status.

Colleges of Advanced Technology were expected to accommodate 2,000 students and this was well beyond the capacity of the Woodlands site. It was agreed that plans for further extensions at Woodlands should be abandoned and instead, a completely new college be erected on a separate site as a replacement. The site chosen was a 170-acre plot in Uxbridge, formerly the Lowe and Shawyer nursery and market garden, which in its heyday in the 1930s, covered 200 acres, employed 1,000 people full-time and produced around 50 million blooms a year.

## Finally a University

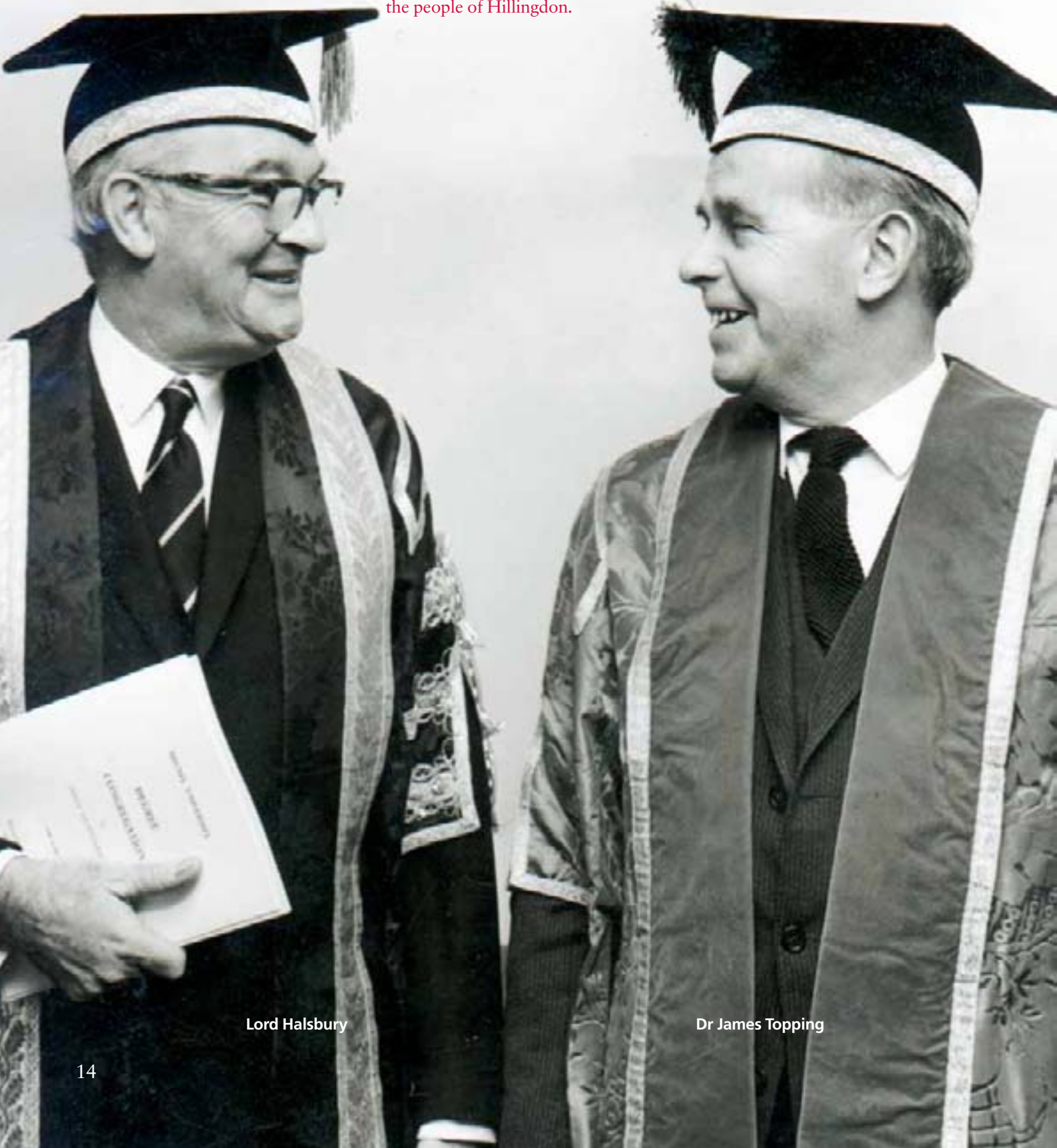
### Brunel Staff Newsletter 23

**Thursday 24 November 1966:** Installation of the Chancellor, Lord Halsbury. Followed the same evening by a dinner at the Connaught Rooms “which brought together members of Court, Council, Senate and their wives.”

**Friday 25 November:** first two degree congregations at which 500 students were conferred. Followed the same evening by the Graduation Ball at Queens Building, London Airport.

**Sunday 27 November:** Service of Dedication and Thanksgiving led by the Bishop of London at Hillingdon Church, followed by tea for several hundred local people – the first public occasion linking the University and the people of Hillingdon.

**Wednesday 30 November:** Staff dinner and dance at the Europa Hotel in the West End. Vice-Chancellor James Topping concluded, with characteristic understatement, “And so, in these various ways, the autumn term of 1966 marked our transfer to university status.”



Lord Halsbury

Dr James Topping



**1964** Railway branch line adjacent to the University site is closed. Hillingdon Council subsequently offers part of the cutting, a spur from IKB's Great Western Railway, to the University for £65,000.

**1965** Building work begins at Brunel, though playing fields and a temporary pavilion were opened on the Kingston Lane site in 1963. Phase one included the engineering complex, boiler house, first hall of residence, administration building and part of the refectory building. Students move into hall the following year but continue to be bussed to Acton.



**1966** Brunel College is awarded a Royal Charter on 9 June, allowing it to become **Brunel University**, with the Coat of Arms received in 1970 and the mace in 1971. Lord Halsbury was installed as the first Chancellor at Hammersmith Town Hall in November 1966, with the first two degree ceremonies held there the following day see opposite.

**1967** First students move to Uxbridge and Perimeter Road opened.

**1968** University officially opened by Lord Beeching, the ceremony being held in an inflated 'air house', which also hosted the first on-campus degree ceremony later the same month.

**1971** The transfer of all departments from Acton to Uxbridge is completed.

Brunel's first Vice-Chancellor, Dr James Topping, who had been appointed Principal of Acton Technical College in 1955, retired.

**1975** **West London Institute** created from merger with Borough Road College (Osterley), Chiswick Polytechnic and Maria Grey College (Twickenham).



**1980** Brunel merges with **Shoreditch College of Education**, one of the leading teacher training colleges in the field of craft, design and technology, which becomes Brunel's Runnymede Campus.



London School of Occupational Therapy joins the West London Institute.

Brunel establishes joint Postgraduate Research Centre with Hillingdon Hospital.

**1983** Brunel Institute for Bioengineering established with Prof Heinz Wolff as director.

**1986** Brunel establishes the first University Science Park.

West Middlesex University Hospital School of Physiotherapy joins West London Institute.

**1991** South Middlesex Hospital School of Physiotherapy joins West London Institute.

**1994** Howell Centre opened, providing a 420-seat theatre and licence for public performances

**1995** West London Institute becomes **Brunel University College**, which merges with the University two years later to become the Twickenham and Osterley Campuses.

Until now, Brunel's traditional fields remained engineering, science, technology, social sciences, education and management, but merger with the Institute added for the first time performing arts, humanities, geography, health, social work, sports sciences and business, creating a total student population of just over 12,000.

**2004** Design leaves the Runnymede Campus to join the other Engineering departments at Uxbridge.

The £6 million outdoor athletics centre is opened by David Moorcroft.

**2005** Twickenham Campus is closed and Education moves to Uxbridge.

The £7 million indoor athletics and netball centres are opened.

**2006** Osterley Campus closes, and Health and Social Care move to new accommodation at Uxbridge, the first time the whole University has been based on one campus for 25 years.

**The Brunel website includes articles on the early days of the University taken from the University archives: [www.brunel.ac.uk/about/history/](http://www.brunel.ac.uk/about/history/)**



# Campus Old and New

The transition of Brunel to university status meant it needed to find more room and so the search for a new home began. The site chosen was a 170-acre plot in Uxbridge which was formerly the Lowe and Shawyer nursery and market garden.

This amounted to 20 times the area occupied at Acton, and many people felt the University would never need more. However architect Sir Richard Sheppard argued that a land 'bank' would be invaluable and urged Brunel to acquire two more sites, one being the 35 acres to the west of Cleveland Road. It was a far-sighted decision; the University was able to buy it later for £235,000 and made possible several major academic and residential developments in the coming years.

The first phase of building at Uxbridge included laboratories for mechanical, electrical and production engineering, and metallurgy, together with an engineering 'centre' (now Howell). Student residential accommodation was also a pressing need and the first hall of residence was an important addition. The University's new responsibilities for financial, personnel, legal and estate matters necessitated a





new administration centre (Wilfred Brown). To support the first wave of staff and students coming to Uxbridge, the programme also had to include a boiler house and a section of the refectory building – though the first students to live in hall (Saltash) in 1966 were bussed daily to Acton for their evening meal as the refectory was not completed for another year.

It was not until 1971 that the whole University was located at Uxbridge and the Acton site vacated. Following those exciting beginnings, there was a steady and gradual development for nearly 30 years, with the major periods of expansion coming through merger with Shoreditch College and the West London Institute, but this again split the Brunel population onto different sites. Thirty-five years later, Brunel is celebrating the unification of the entire University community onto a single campus. A new ambitious Masterplan was created that aimed to provide the facilities, services and environment to meet the needs of all its students, and also prepare the University for future growth and improvement. With over £170 million invested in the Brunel infrastructure over a period of just five years, Brunel has seen a transformation on the same scale as that first decade.

**In the last two years alone, the University has seen a wave of new, top-quality facilities come on stream.**

- In 2004, it opened the new £2.5 million UEFA-class football facilities. Two months later, it celebrated the opening of the new international, competition-standard athletics track.
- Early in 2005, the distinctive Bannerman Centre, housing the main library and a brand new Assistive Technology Centre, with facilities for students with disabilities ranging from visual mobility and hearing impairments to specific learning difficulties like dyslexia, was opened. Also in the spring of 2005, the new indoor athletics centre was opened. As well as the indoor sprint track and jump facilities and a new netball hall, the centre includes a weight training area and sports science support. The original sports centre was also refurbished with extensive new changing rooms, bistro and reception.
- By the autumn of 2005, the University had also unveiled brand-new teaching facilities for Education and Design, a new hall of residence and refurbished Biomedical Sciences labs.

- By the end of 2005, other major projects reaching completion included the transformation of the refectory complex into the Hamilton Centre – named after a former Principal of Borough Road College – with a stunning atrium entrance into dining halls, bars, Students Union and retail outlets.

- With the arrival of 2006, Brunel will have still more halls of residence accommodating 700 students, and a further development of six blocks catering for 570 en-suite rooms will come into use by the end of the year. A landmark building will be opened in time for the transfer of the School of Health Sciences and Social Care to Uxbridge in the summer.

Brunel University, over 40 years, has grown in every sense but has lost none of its bold, striking image. At the time it was started, Brunel's new buildings were amongst the boldest of their day. Regarded by some as 'brutal', several have since been marked out by The 20th Century Society – an influential group of architects and conservationists – as "buildings of genuine power and conviction" and exemplary examples of 1960s architecture. The newest buildings at Uxbridge will surely be as highly regarded in 40 years' time.





## Courses and Student Life Then and Now





## Emotional Reunion at Borough Road after 40 Years

John S MacKenzie

"The thought came to me that in July 2005 it would be 40 years since I left Borough Road and felt this milestone ought to be recognised.

Music was one of my main subjects at College and we had a very tightly-knit group of only eight students in our year. I'd kept in touch with Ian Entwistle, my old 'digs' mate, and knew the whereabouts of Norman Taylor and Ken Hay, but what of the others? It would be a challenge to track them down, but an exciting one.

So the trawl of such sources as Teachers Pensions, the General Teaching Council, Friends Reunited and then Sue Curley in the Alumni Office at Brunel began and we tracked down everyone (though Ian turned out to be in Albania and so wasn't able to make it).

Our two lecturers, Howard Stephens and Pam Larkin, were also found, both still living in Isleworth and both in their 80s! Our piano teacher, Frank Martin, was tracked down – living in a windmill in Norfolk – but in the event he was kept from the reunion by the aftermath of the London bombing at Kings Cross station, and Howard was committed to playing his bassoon at Charterhouse Summer School.

So in July, we descended upon Harmondsworth Hall, excited about meeting up, and a little nervous after so long. But once we'd caught up on the last 40 years and the photos came out, laughter and merriment descended. The next day, Site Manager Alan Beacon had arranged to open up the Borough Road site especially for us, and Brian York provided us with some archive material for the weekend. This was particularly poignant for us, since we knew the College was being sold off and this was our last chance to be there together. We almost had to drag ourselves away, but we all left feeling that the weekend had been a huge success and determined not to wait another 40 years before we met up again!"

Opposite: John Mackenzie and his fellow graduates (with the exception of Ian Entwistle who was in Albania at the time) recreate their 1960s snapshot.



**Brunel University was one of ten Colleges of Advanced Technology to be given university status in the 1960s – indeed was the last of these to be ‘anointed’. So it was natural that the courses on offer in our early years reflected this heritage. When the Charter was granted, 99% of our students were taking maths, science and engineering subjects (20 years later, the social sciences and education had grown to 25%). The first prospectus listed these subject areas together with a number of brand new areas in the Social Sciences:**

### Departments

Biology  
Chemistry  
Education  
Physics

**School of Engineering**, comprising  
Departments  
Electrical and Electronic Engineering  
Mechanical Engineering  
Production Technology

**School of Materials Science and Technology** comprising Departments  
Metallurgy  
Polymer Science and Technology

**School of Mathematical Studies**  
comprising Departments  
Computer Sciences  
Mathematics

**School of Social Sciences** comprising  
Departments  
Psychology  
Sociology  
Economics

All courses were offered in the thin-sandwich mode and led to BTech degrees, but a high proportion of students at that time were part-time, and very few were women. There were just six Master's courses leading to MTech. The profile now, of course, is very different though a large number of those original subjects are still thriving.

### The Changing Subject Profile

Student numbers grew gradually over the first decade, though at postgraduate level, there was a noticeable increase when we began to validate the MBA degrees of Henley Management College in 1972. But the first major change came in 1980, when Shoreditch College, one of the leading teacher training colleges in the field of craft, design and technology, became part of Brunel and Runnymede became the University's second campus.

In 1995, merger with the West London Institute brought an expertise in new subject areas such as performing arts, humanities, geography and earth sciences, health, social work, sports sciences and business, together with campuses in Isleworth and Twickenham.

A hiccup between these two dates was the funding cut of 24% by the University Grants Committee in 1981, which brought about a period of rationalisation both in staff and subject areas. Indeed 13 courses were closed and many options were lost on other courses.



The first-ever graduates of a new Master's course in Contemporary Performance Making, who specialise in theatre directing or solo performance, presented their 50-minute dramas at international festivals in Montenegro and Portugal. Here, Naomi Elkin-Jones performs *Gone Fishing* with James Reynolds, and Gemma Hicks.

## The practical angle

*Never a University to miss an opportunity of giving its students practical work experience, the fuel shortage in the winter of 1973/74, when Brunel operated Monday to Wednesday only and lights and heating were not permitted at any other time, led an Environment Group to explore the idea of building a large windmill to generate its own fuel. They proposed a do-it-yourself project in order to encourage 'learning by doing'.*

	1966	1976	1986	1996	2005/6
Undergraduates	866	1,954	2,333	9,125 (incl BUC)	9,781
Postgraduates	68	1,866 (incl Henley Coll)	1,058	3,112	3,128
Academic/academic-related staff	157	263	489	748	1,285

### Courses Moving with the Times

The Dean of the Faculty of Technology on our 20th anniversary asked "who can forecast the shape of Brunel in another 20 years? One fact is certain – we cannot survive solely on our record of past achievements, but must continue to advance with even greater dedication to progress."

There can be no doubt that we have done just this. The subject profile has been transformed with the addition of widely varying subjects such as Physiotherapy and Drama, English and Sport Sciences, Social Work and International Politics. The programmes offered have also adapted both to changing student demands and rapidly advancing technology. Pure Chemistry, Physics and Metallurgy have given way to Aerospace and Motorsport Engineering, Mobile Computing and Creative Music and Technology, and the University is constantly evaluating what new areas are on the horizon and which areas potential students are most attracted by. How else has the student profile changed? Fewer than 10% of undergraduates are part-time, almost a quarter of our students take postgraduate courses and nearly half the population is female. And with the advent of tuition fees and now top-up fees, they are more discerning and have higher expectations than ever before – so quality is vital.

### A Reputation for Quality

Brunel was renowned for its technological expertise from the very earliest days – its glowing recommendation from the Ministry of Education in the early 60s stating that it had "made a distinguished contribution to the development of

advanced technological education".

As the University expanded into more subject areas, confidence in its teaching and the quality of its graduates continued to grow and Brunel achieved, in the late 80s, the unparalleled success of having the best graduate employment record of any university for six years.

In the 90s, new independent subject reviews by the Quality Assurance Agency for Higher Education confirmed that the University's teaching quality was some of the best, with every subject inspected since 1999 graded 'excellent'. What is more, the QAA's most recent institution audit in May 2004 commended the University in a range of learning and teaching areas and we gained a vote of 'broad confidence' – the highest possible rating – in its report.

The story is the same in many other media. The *Guardian University Guide* puts Brunel in the top quarter of all universities with top-10 places for Engineering, Education, Sport Sciences, Design, Health-related courses, Anthropology and Computer Sciences. Law, Drama, Sociology and Maths also score particularly well.

The *Times Good University Guide* tells a similar story, while *The Sunday Times University Guide* puts Brunel in the top 15% for graduate starting salaries.

It is also extremely gratifying to see that Brunel is leading the way in equal opportunities. A recent survey in the *Times Higher Education Supplement* showed Brunel at the top of the table in the number of senior academics from a black or other ethnic minority background.





### Higher Entry Qualifications

The University is continuing to attract an ever-better quality of UG entrant, too. The tariff points entry levels grew in 2005 for the fourth consecutive year, with 90 students entering with 360 tariff points (equivalent of 3 A-grades) and a mean tariff of 276 points (10 higher than in 2004). And applications for 2006 entry have continued the upward trend – a 13% rise on last year.

### Outstanding Support

Students are attracted not only by the right courses but also by excellent learning, social and welfare services, and here Brunel is also improving all the time. The number of on-campus student rooms has increased by 50% between 2004 and 2006 – all with en-suite facilities. The Library has doubled in size during the same period. A new Assistive Technology Centre provides some of the best disability support facilities in the country. The Careers Services has this year won the Matrix Excellence Award, a national quality standard for information and advice services. The Students' Union and refectory facilities cater for a huge variety of tastes and, of course, Brunel's sporting facilities are amongst the very best. Hard to believe that the first Uxbridge Campus Library was located in a section of the Howell Building and that the first students to live in Hall, back in 1966, had to commute back to Acton for teaching and a hot meal!

**Irene Heywood Jones** graduated in 1992 with an MSc in Medical Anthropology as a part-time mature student. She became great friends with **Pat Black** who started the same course a year before. Pat is now a nurse consultant in colorectal surgery while Irene has continued her nursing career at Bishopswood Private Hospital. They collaborated on a book for nurses, *The UKCC Code of Conduct - a Critical Guide*, and are both regular contributors to nursing journals. Irene recalls the rigours of taking an MSc as a working mother.

"I began my MSc, aged 46 and with a professional nursing career, a teaching role and two teenage children in the wings. My peer group had a similar history and baggage so I was in good company.

I missed out on the sporting, socialising and drinking aspects of student life but had done all that as a student nurse! Anyway, I really enjoyed the course and felt it completed my nursing education.

I remember the fear and excitement of sitting my finals and arriving home, exhausted, with 'Mum, where are my tap shoes? I'll be late – please hurry up!' The magnitude of the day was lost on all but me, but I didn't mind. That same daughter has recently completed her degree at Warwick and now finds it hard to comprehend how I managed to study for two years for a Master's with a dissertation while keeping house, raising children and holding down a job. It makes me wonder, too!"

## The location of Brunel's campus has proved a popular warm-up venue for touring bands and the comedy circuit:

### Bands of gold have included

**Moody Blues**  
**Pink Floyd**  
**Joe Cocker**  
**Elton John**  
**Jethro Tull**  
**Tears for Fears**  
**Deep Purple**  
**Yes**  
**John Lee Hooker**  
**Fleetwood Mac**  
**Fairport Convention**  
**Alison Moyet**  
**D:Ream**  
**Asian Dub Foundation**  
**Bluetones**

### Stand-up stars have included

**Ross Noble**  
**Craig Charles**  
**Jimmy Carr**  
**Sean Lock**  
**Frank Skinner**  
**Lee Evans**  
**Jenny Éclair**  
**Bill Bailey**  
**Lee Mack** (also a Brunel graduate and pictured below)



# An International Perspective



The international perspective has been central to Brunel's activity for many years. Thousands of students have taken foreign language courses, hundreds have benefited from the European ERASMUS exchange programmes, and many more have studied abroad during their work placements. However the past few years have seen a massive increase in investment in international areas and in particular into recruiting more international students and developing research and academic partnerships across the world.





### **The Evolution of Brunel International**

Although international students have always been a part of the student body at Brunel, their numbers had been relatively small, with the majority coming from countries within the EU. However as the University moved into the 21st century the growing global trend by international students to choose the UK for their higher education encouraged us to implement a fast-track plan to develop our international operations. The small international office of three staff increased tenfold to create a Brunel International that could offer a dedicated student service to assist with the recruitment, admission and welfare of international students from initial enquiries through to graduation. It revolutionised the way in which international students were dealt with, so it was no surprise that this increased level of customer service saw international student numbers at Brunel treble during this period.

### **The Era of Collaboration**

With increasing global competition for international students, particularly from the USA, Australia and Asian countries such as Malaysia and Singapore, we have had to attract a consistent stream of international students from reliable sources and we have made great strides in developing stronger collaborative links overseas.

In 2003, we took the innovative step of signing an agreement with the IBT education group, whose roots were initially in Australian education, to establish a partner college called the London International College of Business and Technology (LIBT) on Brunel's Uxbridge campus. The aim of the collaboration was to offer alternative pathways for international students onto Brunel's academic programmes through a fast-track programme of study. This was seen as a revolutionary way of operating as it gave

access to a whole range of overseas recruitment markets where differences in academic systems had meant students had not been able to gain direct entry into Brunel. With the expectation of hundreds of students from the LIBT programmes feeding into the second year of Brunel's undergraduate programmes in Business and Management and Information Systems and Computing, the link gave Brunel an alternative way to expand its global impact.

It also became apparent that Brunel needed a more formalised way of assessing and implementing overseas collaborative links. So in 2004, we set up the Academic Partnerships Unit to help develop collaborative links with high quality universities overseas. The aim was to create joint programmes that would allow students to start a programme overseas and then finish it at Brunel, giving the student an international study experience without the full cost. This unit was also designed to create feeder paths into Brunel's undergraduate and postgraduate programmes through the recognition of overseas academic programmes. Brunel now has 22 collaborative links in regions as far-reaching as China, the Middle East and Norway. We are also at the forefront of a nationwide trend towards operating off-shore academic programmes.

### **Broadening of Opportunity**

In 2005, Brunel International established the International Pathways Centre (IPC), with the aim of offering pathways into Brunel's academic programmes through English language teaching. The Centre also offers bespoke programmes to address particular linguistic or other academic needs and is about to introduce pathways into traditional academic disciplines such as engineering and law.



### **The International Future**

So, what does the future hold for Brunel internationally? We are proud to play host to over 2,000 international students from over 110 different countries. This brings in much needed revenue to the University along with a hugely important cultural value. With the demand for UK education still high on the agenda for many international students, we shall continue to expand our operations to ensure we work even more closely with our key contacts overseas.

What is more, Brunel has successfully recruited academic and research staff from all over the world, enhancing the University's research-led strategy but also making this a truly international community.

# The Research Bedrock

As befits a university with Brunel's history and reputation, research is at the heart of all we do. It underpins the courses we offer and permeates the academic work of our students. It is responsible for much of our collaborative work with business, industry and the public sector. No less important, it generates a culture of intellectual endeavour and encourages the cross-fertilisation of ideas and expertise for which Brunel has long been famous. This research culture has been further boosted with an investment by the University of £14 million in the four years up to 2006.

On the following pages we celebrate some of the research that has made Brunel's name during the last four decades. They illustrate the quality, relevance, variety – and often endurance – of truly important research but can only scratch the surface of the work that goes on at Brunel. For a fuller picture, please visit our website.





Professor Julia Fox-Rushby

### A Quarter Century of Bioengineering

For nearly 23 years, the Brunel Institute for Bioengineering (BIB), founded in 1983 by Professor Heinz Wolff, has worked at the interface of medicine, biology and engineering. Its diverse research activity includes bioprocess engineering, medical engineering, rehabilitation engineering and space science and engineering, but it is the individual projects that illustrate best the range and quality of its achievements.

BIB developed the concept for the general-purpose experimental facility known as the Glovebox (GBX) on the Space Shuttle USML Mission. This enabled scientists to perform fluid and material science experiments safely without contaminating the closed environment of Spacelab and endangering the crew. The Institute remains a key contributor to the European Space Agency and NASA space programmes.

The Institute's Tools for Living (TfL) team is renowned for its work with disabled people, the elderly, special interest groups, hospitals and industry, and in getting ideas from concept to production. Examples include The Companion, designed specifically for those unable to leave their homes to do their weekly shopping (there is more about this on page 42), the Millennium Home – a 'caring home' – equipped with sensors and communications devices for the elderly, and devices for non-invasive continence management, designed to improve the quality of life for the elderly/disabled.

The Institute is also working with the Wolfson Centre for Materials Processing at Brunel and The Centre for Disability Research and Innovation at the Royal National Orthopaedic Hospital to develop a

novel material for the production of spinal braces for scoliosis, as well as other orthopaedic supports.

Under its current Director, Professor Ian Sutherland, the Institute has developed other world-leading technologies. Its counter-current chromatography (CCC) equipment (pictured opposite) has allowed huge advances in the scale-up and manufacture of new medicines and in 2002 Brunel's spin-out company, Dynamic Extractions Ltd, was set up to commercialise this technology. The research team, with collaborators around the world, is now successfully purifying natural anti-cancer molecules and traditional Chinese medicines.

### Collaborative Success Story

The Brunel/Hillingdon Hospital Postgraduate Research Centre was opened in 1984 with the help not only of Government funding but also extensive fund-raising across the region. One of the Centre's most successful collaborative projects was the Auditory Response Cradle or ARC. Early diagnosis of hearing difficulties before speech and social habits are formed improves the effectiveness of remedial treatments, and the cradle can detect hearing impairments in babies within a few days after birth.

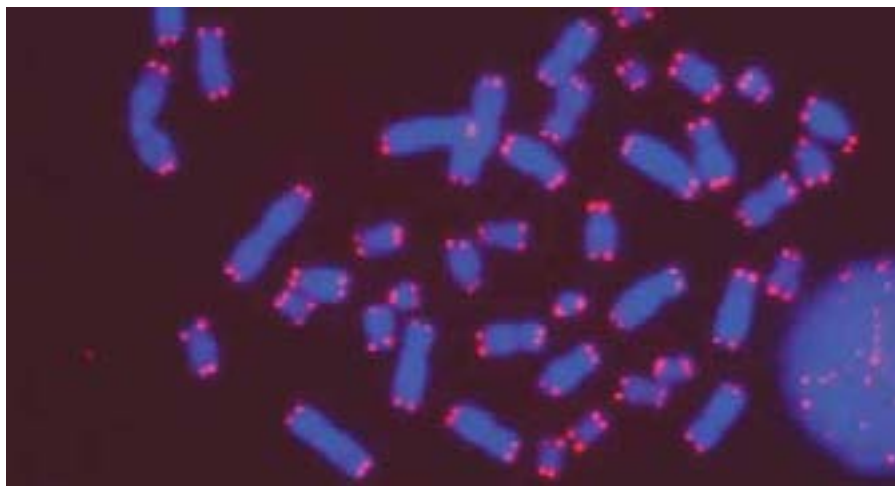
As one of the first practical applications of microprocessors in medicine, the pre-production prototype of Brunel's ARC was purchased by the Wellcome Collection for the History of Medicine. A second was exhibited in the Science Museum's Challenge of the Chip exhibition. It has since been marketed to the US, Canada and Australia as well and has been used to test the hearing of over 10,000 babies to date.

### Influencing Health Policy

The Health Economics Research Group (HERG) has this year won Department of Health funding valued at £1.8 million over five years to carry out an economic evaluation and health technology assessment of direct relevance to DoH Policy. It is the fourth in a series of such grants from DoH and represents 20 years of continuous research support to HERG.

HERG's success is due in large part to its ability to achieve the highest international scientific standards whilst providing research that is accessible to policy-makers, providing insights and analysis that can inform policy on issues that are often relatively intractable. The Group has combined this approach with the sort of issues that affect the everyday lives of patients and health employees. It has undertaken clinical evaluations into the costs and benefits of heart and liver transplants, and of home support schemes. It has provided valuable research on screening programmes as well as the economic value of new technologies such as medical lasers, implantable cardiac assist devices and the use of telemedicine.

Professor Martin Buxton has headed the Group since its inception and has recently been joined by Professor Julia Fox-Rushby who not only completed her PhD in HERG in 1993 but was a Brunel undergraduate as well. Brunel's growing expertise in public health issues has been further enhanced by appointments in the School of Health and Social Sciences, including Professors Daniel Reidpath and Pascale Allotey (see page 45).



Human chromosomes (stained blue) clearly showing the telomeres (stained pink). The length of our telomeres controls the number of times a cell can divide, and this cancer protective mechanism is critically damaged in cancer cells. Photo credit: Dr P Slijepcevic, BICGP.

The Urban Scholars Programme aims to raise the aspirations of gifted and talented youngsters.

### Dedicated to the Challenge of Cancer

The University's first full Annual Report in 1967 announced a research grant from the British Empire Cancer Campaign. This early award hinted at one of Brunel's most successful and important areas of research endeavour that has led to major advances in understanding the causes of the disease and potential treatments.

The chief aim of the present-day Brunel Institute of Cancer Genetics and Pharmacogenomics (BICGP) is to identify and characterise new genes and molecular pathways involved in human cancer development, which can be exploited as targets for novel therapeutic intervention. Its scientists have recently identified five new genes (whose function is to prevent cancerous growth of cells in normal tissues) critically altered in breast and prostate cancer and in malignant melanoma. In each case replacement of the defective gene in tumour cells with a normal copy reinstates normal cell growth control. The Institute is also working to establish the precise role of the cellular immortality enzyme, telomerase, in human cancer progression. The immortalisation of human cells as a critical event in cancerous transformation was described for the first time by the group in the 1980s.

The Institute works closely with the pharmaceutical industry and small biotech companies to translate information about cancer into new therapies and diagnostics, and is supported by Cancer Research UK and other cancer charities. A major new

grant, MOL CANCER MED (Developing Molecular Medicines for Cancer in the Post Genome Era), initiated and coordinated within the BICGP, involves 14 partners throughout Europe and is funded by the European Commission.

### A Material Difference

From its very beginnings, Brunel has been a leader in the field of materials science, metallurgy and polymers, playing an integral part in its reputation for engineering and technology. That the Wolfson Foundation selected Brunel for investment in a new specialist research centre in 1987 was confirmation of this reputation.

The Wolfson Centre for Materials Processing was established as a focus for materials research at the University. It has attracted funding from UK and European government funding agencies and also from major industrial companies such as Unilever, Rolls-Royce, National Power, British Aerospace, and local companies such as John Guest Ltd.

In 2004, Lord Wolfson opened an extension to the Centre, a purpose-built processing hall containing hi-tech equipment where a range of research for industry and bio-medicine alike will be carried out, including unique processing techniques developed at Brunel.

In recent years, researchers in the Centre have made major advances in biodegradable natural material processing.

Earlier generations of 'biodegradable' packaging are based on modified plastics but the latest biopolymers are based on starch and natural fibres, such as straw, that have the advantage of being created from renewable and sustainable resources and being compostable, so reducing their environmental impact. The Centre has also created a substitute bone material, ceramics that can be made into artificial hearts and flame-retardant polymers for use in transportation.

### Education at the Core

Another research success story with roots dating back to the University's earliest days is its work in education. Brunel was highlighted by the Government in 1967 as one of only three places designated for training teachers in science and technology and also won what was, at that time, a huge grant from the DoE (£75,000) to provide training in education research techniques.

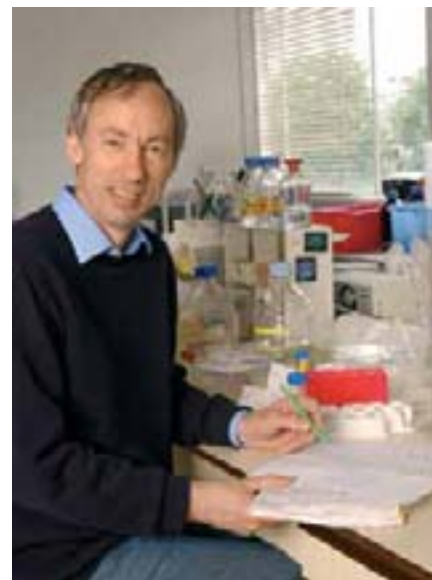
Of course Brunel can lay claim, through its Borough Road heritage at Osterley, to be the first teacher training college in the British Commonwealth. In 1996, it became home to the UK's first university-based Professional Development and Research Centre, dedicated to finding the best ways to educate able and exceptionally able pupils.

Now called the Able Children Education Centre, it is recognised in the UK and abroad as a major contributor to expertise in this field. It carries out research into





Final year PhD student, Hyeon-Jeong Goh (left), is a Korean ballet dancer studying animation and dance. Her film *Mirror of Water – Still Sky* has been shown in recent months at numerous international festivals as far afield as Argentina, Canada and Greece. Her previous piece, the equally-successful *Dancing with Dragons*, used motion capture to visually transform her dance into 3D images.



**Professor John Sumpter**, Distinguished Professor of Ecotoxicology in Brunel's Institute for the Environment, is currently the most cited environmental scientist in the world. His research looks at the effects of chemicals in the aquatic environment. He is particularly interested in biologically active pollutants, such as hormones and pharmaceuticals, and the effects these have on fish. He pioneered the field now known as endocrine disruption, being one of the first people to show that effluents from sewage treatment works contain oestrogenic (feminising) chemicals, and that these chemicals cause intersexuality in fish.

aspects of higher ability, intelligence, and curriculum needs of higher ability pupils and social aspects associated with their education. The Centre's strong theoretical work is underpinned by research-validated models but is also grounded in the practical realities of the classroom and disseminated to practitioners through accredited courses for professionals in the field and through international collaboration.

The recent Mathematics Enrichment Project, funded by the DfES, was carried out in partnership with the National Primary Trust and aimed to support effective identification and provision for mathematically promising children. The research has led to the production of professional development plans for teachers of gifted young mathematicians, and BACE has subsequently been commissioned by the DfES to carry out a £350,000 project on ways of nurturing talent in 4-7 year olds.

### **Vibrant, Contemporary and Innovative: the School of Arts Takes Off**

The University's most recent arrivals, the Arts and Humanities, are giving the Brunel name a whole new meaning. Under the leadership of digital performance expert, Professor Steve Dixon, the School is carving a name for itself as a truly unique centre for cutting edge research and courses across the disciplines of music, film and television, drama and English, attracting top-flight academics and practitioners from around the world.

Brunel is one of the best places in the country for creative musicians who want to specialise in **contemporary music**, and boasts such prestigious names as Professor Peter Wiegold who has an international reputation as composer, conductor and creative director. He has a fruitful collaboration with the London Sinfonietta, and with Brunel Artists in Association, cellist Matthew Barley and the Piano Circus ensemble. He explores the complete range of musical and verbal forms, often combining improvisation with devised and written material. The University has recently boosted still further its expertise in musical innovation with the appointment of award-winning pianist Sarah Nicolls and the composers Joe Duddell and Harald Muenz (see pages 44).

The School of Arts is home to two important research archives. The **Cult Film Archive** is an internationally recognised research-based resource dedicated to the study of the whole range of cult films. Deputy Head of School for Research Professor Julian Petley is also principal editor of the *Journal of British Cinema and Television*, a key resource for those publishing major research in this field.

The **Archive of the Now** is a collection of contemporary experimental writing with special emphasis on innovative British poetry in a variety of media including sound files, small press and web-based. In addition, the archive is the hub of readings and performances by leading names in contemporary literature.

Another exciting addition to the School of Arts is well-known **novelist, Celia Brayfield**, who has eight novels to her name as well as extensive screenwriting and journalistic experience.

**Electronic Arts and Performance** is a new interdisciplinary research area focusing on the conjunction of creative arts and advanced media technologies. It draws together researchers in digital performance, electronic music and animation from the School of Arts with researchers from the School of Engineering and Design specialising in cutting edge multimedia and electronics applications and developments.

This sample can give only a flavour of the variety of creative work that is underway in the Arts at Brunel (see page 44 for more). The next year, though, promises still more big names, cutting edge performance and innovative collaboration.

**For more research highlights in 2005, see page 42**



# Enriching the Experience

## Arts for All

As the Arts Centre prepares to celebrate 2006 by moving into a brand new home, it is hard to believe that arts at Brunel began life in 1966 as a complementary studies unit within the Division of Languages located on the third floor of the Howell Centre. From those humble beginnings, the Arts Centre became a central part in the lives of many students and staff, based until this year in the converted 'Maths annex'. By next autumn, however, Director Jay Wilkinson and Centre staff will occupy new, purpose-built accommodation that, for the first time, will give potters, painters and photographers studios designed to fit their needs, together with visual arts and ceramics studios.





Above: A very different Brunel captured by Alan Bennett as part of the University's 20th anniversary commission;  
 Top Centre: Music Bursars;  
 Far Right: Maggini Quartet at a Hillingdon Primary School;  
 Bottom: Sweeney Todd



### Making an Exhibition

For over 30 years, the exhibition of All Our Own Work has demonstrated the wealth of talent, imagination and skill of the students, staff and members of the public who come to the weekly and weekend classes, from life drawing to Ikebana and from ceramic jewellery to modelling in wax. This exhibition is one of the highlights of the annual gallery cycle, and the Beldam Gallery is an excellent focus for this and much other work. Opened in 1997 and named after its benefactor, Robert Beldam, the Gallery is the third home for the University's exhibition programme. During the 60s, the Refectory doubled as the gallery, and when the Library opened in 1971, an area was allocated for a gallery (in non-examination periods!). The first exhibition there, curated by Wynn Borger, was of work by Joe Tilson, whose wooden murals hang in the original Library stairwell. Former Head of Mechanical Engineering Professor George Jackson, has recently donated one of the Tilson prints he purchased then to the University Artworks Collection.

In addition to the range of wonderful touring exhibitions from the National Collection (such as Picasso and Matisse), many outstanding shows have been curated by Brunel's Alan Bennett since 1986, notably An Interest in Measurement, bringing together work by Patrick

Symonds, Euan Uglow, Kapil Jariwala and Patrick George. That same year, the University commissioned a set of paintings of the Brunel Uxbridge Campus by Alan to commemorate its 20th anniversary (some of which can be admired while listening to music performances in the Recital Room).

### Supporting Performance

In 1985, Brunel set up the Music Bursary Scheme to support talented instrumentalists and singers in their music whilst reading for non-music degrees. Now the Music Award Scheme, it continues to support many talented musicians whose skills can be heard in frequent lunchtime and evening concerts throughout the year.

1985 also saw the first University stage musical – *West Side Story* – performed in the old Non-Teaching Staff Common Room. The 20th show in 2005, *Lust*, was performed in the far more conducive Howell Theatre. There have been many outstanding individual performers in both music and drama over the years, and the thrilling and demonic performance by Ross Ramgobin as *Sweeney Todd* (Autumn 2004) was undoubtedly one of them. Producer Eileen Pinkarchevski, Musical Director Sally Goodworth and Head of Student Music, Michael Sanderson are all outstanding teachers, and their contribution to the University's musical life is enormous.

### The Professional Touch

Brunel has benefited from important collaborations with professional musicians since 1983. The first associate artists were the Maggini Quartet (then the Bochmann Quartet), who were awarded University Fellowships in 2004 in acknowledgement of their huge contribution to the musical life of the University. Their work encompasses not only concerts and an annual chamber music weekend (always fully booked months in advance!), but also a wide variety of outreach work. In a joint project with Hillingdon Community Trust, they visited 16 local primary schools to give concerts to 8-11 year olds, many of whom had never encountered 'serious' music. The reception from children and staff was overwhelmingly appreciative, and has led to further joint projects.

### An Exciting Future

The Wigmore Hall concert in January 2005 brought together many cultural strands at Brunel, including the Maggini, two of Brunel's Honorary Graduates, actor Patricia Hodge and pianist Bernard Roberts, the upper voices of the Brunel Singers (conducted by Michael Sanderson), pianist Sally Goodworth and Nick Pugh's jazz trio, from the School of Arts. The expansion of such collaboration across so many artistic areas is one of the many pleasures that Brunel Arts anticipates in 2006 and for years to come.

Paul Dickenson graduated from Borough College in 1971 and went on to become one of the best hammer throwers in the world, breaking the British and Commonwealth records and representing Great Britain at two Olympic games.

He's now a successful businessman and a highly respected broadcaster. His first TV appearance was in 1990 and since then he's been in demand at the summer and winter Olympics, the Paralympics, and on programmes such as Superstars and the World's Strongest Man.

"I 'landed' at Boro' almost by accident. I had no college to go to when I finished school in '68 but was contacted by Jim Biddle asking me to come and have a look. I have to say I was sold the moment I walked on campus and the three years just sped by – one year in digs, one in a flat (the infamous 'Grove') and one year in 'Paradise' at college – all with their own adventures, romantic notions, trials and tribulations.

What memories spring to mind? There was a fabulous rugby tour to Cornwall where the standard of rugby was surpassed only by the singing and early morning drinking sessions insisted upon by our Falmouth landlord! Our first victory in athletics against arch rivals Loughborough was, of course, one of the sweetest. Then there was dropping weights through the floor of the gym before the days of custom-built fitness rooms!

There were escapades far too many to mention but the team spirit, friendships and skills acquired during my college years will last more than a single lifetime. Certainly the sport was superb, under the guidance of Jim Biddle and his team, and it gave me a real focus in terms of standards, fulfilling potential, motivation and excellence from myself and the future generation of children I was to teach. One of the first lectures I ever attended, by George Little, guided us through the do's and don'ts of PE teaching in terms of using our most prized asset – our voices – skills I still use today in my role as a television sports commentator. For that alone I thank Borough Road College."





# A Great Sporting Tradition



Brunel's Sport Centre was officially opened by Sir Roger Bannister in 1973, but in fact the playing fields, tennis courts and pavilion in Kingston Lane were the very first part of the Uxbridge campus to be used back in 1964. The formal opening included a doubles tennis match in which Vice-Chancellor James Topping, immaculately attired in 30s-style flannels and partnered by the Secretary General, Brian Winstanley, beat their student opponents.

## Leading the Way

From the outset, the University offered some of the best facilities in the HE sector, and Brunel teams excelled in the national inter-university competitions even before merger with one of the best sporting colleges in the UK – Borough Road (half of the West London Institute partnership).

Brunel was the first University in 1980 to install a floodlit synthetic training surface. A climbing wall that catered for all techniques put Brunel on even more maps, with the British Mountaineering Council rating it in the top five in the whole of the country. The University had also become a Centre of Excellence for weight-lifting. Throughout the 80s, the University was home to the Brunel Ducks National League Basketball team, itself drawn from students and outside players, and the team's crowning achievement came in 1987 when

it won the National League Basketball Championship Trophy at Wembley.

The 1990s saw Brunel again keeping one step ahead with the conversion of three squash courts into a state-of-the-art fitness centre. It is now about to undergo a £400,000 facelift with new interactive equipment, fitness programmes, and physio and massage services. And the progress continues apace.

## From Strength to Strength

In 2004, the University opened the Sports Park, a purpose-built facility incorporating athletics track and field events, tennis courts, and both sand-based synthetic and rubber crumb pitches. By September 2004, we completed a massive refurbishment of the existing sports centre and in May 2005 we opened a superb indoor athletics centre.

The University has been fortunate in attracting the support of a variety of organisations, including financial capital investment from the Football Foundation and Sport England. Indeed in 2006, Sport England's West London Office will be managed through Brunel, which will significantly increase the University's role in the pan-London network of community sport.

The English Institute of Sport has developed a regional office with Brunel and helps to support high performance athletes in all Olympic sports. The governing bodies of UK athletics, England Badminton and British Olympic weight-lifting have also been 'quick out of the

blocks' to join with Brunel in driving forward their respective sports for local, regional and national squads. And in netball, Brunel Hurricanes, one of only eight teams nationally in the Netball Super League, provide great opportunities for the best players in the area to train and play together.

Volunteering has long been an important training ground for students in developing their social and sporting skills, and with funding from Sport England, Brunel has been able to launch a programme to support community groups in a variety of sports. This scheme is of enormous benefit both to the Brunel students but also to youngsters wanting to develop their own skills and maybe even follow in the footsteps of their 'student coaches' and study at Brunel.

## Looking Forward

There is even more to look forward to in the coming years, not least the University's involvement in the 2012 Olympic Games. The Olympics are the dream of many students and became a reality for several at Brunel: Audley Harrison, Iwan Thomas, Kelly Sotherton and James Cracknell amongst them. London's successful bid was keenly supported by Brunel and it is likely that the University will host one of the participating nations for training and acclimatisation before entering the Olympic Village. There will also be opportunities for students to volunteer to help in the event and be part of the wonderful sporting occasion that will be the 2012 London Games.

# Alumni, Partners and Friends

The University would not be what it is today without the support and generosity of graduates, businesses, trusts and foundations, the local community and its staff. That support grows year on year as the Brunel 'message' is taken to the most influential people at home and in far-reaching corners of the world.

## **Graduate Support: the Cornerstone to our Success**

Our most valuable resource has always been our graduates, who have become our greatest ambassadors in the world at large. Even more importantly, however, they give much back to the students who have followed in their footsteps. Many have donated time and money to our campaigns. Others offer careers advice to students and recent alumni or have taken work placement students. They inspire staff and students with their enthusiasm for their time here and their willingness to return, sometimes from great distances, for reunions, lectures, events, to take part in seminars and tutorials, and even to judge competitions.

They are now supporting the University and its students in even more ways. The Scholarship Fund, for example, means that Brunel's doors will always be open to talented young people who, for social and economic reasons, might not otherwise have the opportunity to pursue higher education. Our aim is to create a £1 million fund by the University's 40th anniversary in 2006 that will support not only scholarships but also stocks of books and journals for future students and researchers. The Brunel Development Fund aims to support the most pressing needs on campus whether it is the restoration and modernisation of existing buildings, purchasing new IT equipment or supporting student extra-curricular



## **Andrew Ives graduated from Brunel in 1967 with 1st Class Honours in Electrical and Electronic Engineering.**

"As one of the very first engineering graduates of the University, which in 1967 had its 'campus' on a small site in Acton, it is hard to believe that in just 40 years Brunel has grown to become a world class University with such a reputation, particularly in engineering.

I was fortunate to become involved in the early days of the application of electronics to the motor car and had tremendous fun working on the early developments of engine controls, anti-lock braking, radar adaptive cruise controls and driver information systems, many of which have become commonplace on today's vehicles. I went on to contribute to the conversion of the automotive diesel engines to use electronics to make them quiet, clean and super fuel efficient, and I am delighted to see so many enjoying the

benefits of that technology on our roads today. Along the way, I had even more fun working with the Jaguar team in their successful return to Le Mans in the 80s and with many other World Championship Endurance Car and Rally teams, including the highly successful Metro 6R4 super rally car.

Now, as the 120th President of the Institution of Mechanical Engineers, I look back on my time at Brunel as one of the most formative and important of my life. The immense value of the sandwich course is balanced by wonderful memories of defending our dinosaur mascot against college raids, the great scooter race from London to Brighton (no mean feat!) and Wednesday afternoons on a borrowed squash court somewhere in the depths of Ealing.

Brunel certainly did me proud in the 60s and it is wonderful to see the University flourishing so well in this special anniversary year."





projects. Donations could go towards supporting a play in the Arts Centre, helping to modernise a lecture theatre, or supporting a new health research programme.

Within just 18 months, our graduates have already pledged £69,000, which together with bequests and gifts from friends and other supporters have given us a total of £582,000 towards our goal.

### The Support of Friends and Partners

Brunel has always made great efforts to promote links with business and enterprise – and has succeeded in no small way through its employment-oriented sandwich degree programmes. The University has a flourishing Brunel Enterprise Centre (BEC) that helps to manage the commercial exploitation of University projects and the wide-ranging external funding we attract for research projects within the University. Through BEC, Brunel is also the co-ordinating university for WestFocus, a Government-funded consortium of HE institutes that is the largest 'knowledge exchange' of its kind in the UK.

Support for academic research and development comes in many forms, from sponsoring prizes and competitions to directly funding cutting-edge research.

The Reliance Prize for Enterprise and Innovation is an annual award for a project, product, realised design concept, dissertation or business plan that exemplifies true enterprise and embodies design and engineering innovation.

Design graduate Paul Scrase's innovative redesign of a simple warning light attached to traffic cones was awarded the £2,000 prize from Reliance Security in



2005. His design enhances the standard lights used in motorway road works, improving safety for both road users and road workers. The chevron design fits onto any standard cone and sits off-centre, creating the visual effect that the cone is wider and the road is narrower, thus reducing accidents. The lights are also designed to flash in sequence at key stages for example, at a very acute bend or where the contra flow forces drivers to change lanes.

Paul's success has secured him a job at PDD, one of the world's leading product innovation consultancies.

Second and third place prizes were awarded to Amy Laws for her contemporary clothing storage system and Claire Dunne for an intelligent patient identity wristband. (The three prize winners are pictured top left.)

**Sponsoring research** is a great way to be part of truly amazing research. For instance, Professor Robert Newbold, Director of the Institute of Cancer Genetics and Pharmacogenomics, works with the pharmaceutical industry and small biotech companies to translate fundamental scientific information about cancer into new therapies and diagnostics. All this is dependent on funding from Cancer Research UK and other cancer charities, from the European Commission Framework Programmes and from industry.

The Henry Smith Charity gave a generous grant, Concept 2 donated equipment and DEMAND provided their services to a ground-breaking project that helps paraplegic athletes compete in rowing competitions (top centre). This is made possible by a research team led by



Professor Brian Andrews in the School of Health Sciences and Social Care at Brunel, working alongside Garry Wheeler from the Steadward Centre at the University of Alberta, Canada. The work involves using functional electrical stimulation (FES) to stimulate paralysed leg muscles, as part of wider research into reducing common health problems suffered by paraplegics.

The **Moody's Foundation** is supporting the 4-year Urban Scholars Programme aimed at raising the achievements and aspirations of gifted and talented pupils selected by urban schools. The young students, many of whom had low self-esteem and had never considered entering further or higher education, attend university classes once a month, undertake projects, discuss careers and fill gaps in their core learning.

### Brunel Graduate's Company Supports New Design Studio

A cutting-edge design studio was unveiled in September by the President of the Institution of Mechanical Engineers (IMechE), Brunel graduate Andrew Ives (see opposite).

The studio has been funded by Niftylift, a company established by another Brunel engineering graduate Roger Bowden (top right). Containing state-of-the-art equipment, the Niftylift Design Studio is an open learning environment where students can access computer-based facilities as well as tutorials on theoretical subjects to complement their education in timetabled sessions.



Professor Steven Schwartz is flanked by two former Brunel Vice-Chancellors, Stephen Bragg, 1971-1981 (left) and Michael Sterling, 1990-2001.

# Featuring 2005

## Steven Schwartz

Vice-Chancellor Brunel University, 2002 to 2005

**An appreciation by Jeffrey Ellwood**  
Chair of Council



Steven Schwartz, who left Brunel at the end of 2005, was a larger-than-life figure who played a major part in giving the University a sense of pride in its core values of innovation, entrepreneurship and the application of knowledge. He achieved this through his clear vision of where he wanted Brunel to be, in the top 25% of UK universities, research led, and internationally recognised for both teaching and research.

He was able to build on the solid financial base that he inherited, not least with the sales of the Osterley and Twickenham campuses, and the massive investment in the rebuilding of the Uxbridge campus will remain his most visible legacy. However, he also presided over Brunel's move up the league tables and a student population that achieved higher entrance grades year on year. In particular, he was highly enthusiastic about international recruitment, which almost trebled during his three years at Brunel, reinforcing his belief in the true value of a diverse student community for enriching education.

Steven made his mark on the broader UK education scene remarkably quickly. He

chaired the Government's Admissions to HE Steering Group aimed at ensuring fairness for all who apply to university, and led the Council for Industry and HE's Ethics Project funded by HEFCE to develop an ethics framework for higher education.

Steven's dynamic vision for Brunel made a most positive impression on alumni and key external supporters, who have been unanimously warm in their praise and support. He initiated the Brunel Club with a membership drawn from senior alumni, honorary graduates, lay leaders and influential friends as a unique way of involving a broad spectrum of interested individuals in Brunel's future development. He recognised that Brunel needed a few exceptional projects if it was to stand out from the crowd and he was always looking for inspirational, outstanding ideas and the people to develop them.

There is wide recognition that, under his leadership, Brunel has become an increasingly ambitious and successful University – and we look forward to continuing this success story.





**The Bannerman Centre** – a landmark new building in the heart of the Uxbridge campus – was opened by renowned author and TV presenter Lord Melvyn Bragg in February.



## News and Events

### Two Schools Celebrate Major Steps in their Development

Leading educationalist Dame Mary Richardson, Chief Executive of the HSBC Education Trust, praised Brunel for its visionary approach to the teaching of education at a ceremony to mark the transfer of the University's School of Sport and Education to new, purpose-built, laboratories and offices on the Uxbridge campus in September.

"I have no doubt that the work of this visionary University and School will be influential throughout the world for hundreds of years."

Dame Mary was awarded an honorary degree of Doctor of Education by Brunel in July 2005.

Brunel Chancellor Lord Wakeham laid the foundation stone of the new £9.3 million building for Brunel's School of Health Sciences and Social Care in May.

Speaking at the ceremony, Lord Wakeham said: "We are giving our excellent Health and Social Care experts a 21st century building in which to carry out their vital work for the health of our nation and our social fabric. Physiotherapists, occupational

therapists, community health workers and social workers are essential to our well-being. I know that we have committed staff and students and that the whole of our project team realise the importance of this new building to the future success of the University in these subject areas."

The distinctive semi-circular building is due to be completed in July 2006.

### Biosciences Benefits From a £300,000 Refurbishment

Heads, teachers and student representatives from schools and colleges in the region attended the official opening by Professor Steven Schwartz of the £300,000 refurbished Biosciences teaching laboratory in November (top right).

Dr Mariann Rand-Weaver, Director of Biosciences, said: "The impact of modern biomedical science on society is now greater than ever, and the need for well-trained biomedical scientists for careers in health care, pharmaceuticals and related industries is increasing."

Brunel's research staff are in the forefront of their fields and include experts in cancer genetics, premature aging diseases and leukaemia.

### Aviation Courses Take Off at Brunel

Brunel is the first university in the country to install an Engineering Flight Simulator with a V/STOL capability (pictured above). It will be used for research as well as on the brand new programme in Aviation Engineering with Pilot Studies that begins in 2006. The simulator will be used to teach the students stability and control to complement time spent flying single engine propeller aircraft at a local aerodrome.

Students and researchers on current Aerospace Engineering courses will immediately start using the simulator to evaluate the performance of aircraft they have designed themselves. The unique flight software will enable them to replicate any subsonic aircraft – from an Airbus A320 to an early model such as a Lancaster or Spitfire.







### Record Breaking Opening for Athletics Centre

One British and one World record tumbled at the opening of the £7 million Athletics Centre and Netball Hall at Brunel in April. The Centre, part-funded by Sport England, was opened by Alan Pascoe, MBE, Chairman of Fast Track and Vice-Chairman of the 2012 London Olympic Games bid team, himself a Brunel alumnus. He said: "It is a great facility for a city bidding to host the Olympic Games, and it's a great reward for the reputation of the University."

Olympic heptathlon bronze medallist and former Brunel student Kelly Sotherton ran a 100m hurdles time of 13.52 seconds, overturning Sally Gunnell's previous best of 13.71.

The new Netball Hall, opened by Wilma Shakespear, the National Director of the English Institute of Sport (EIS), saw an inaugural match between England Netball Under 19s and Brunel University London Hurricanes Super Cup team – who play in England's top domestic competition. The Brunel team won 57 - 42.

Paraplegic athlete Robin Gibbons broke his own world 2000m indoor rowing record for a paraplegic rower, clocking up 11 minutes 50 seconds.

Robin was using a specially-adapted rowing machine developed by a team headed by Brunel's Professor Brian Andrews and the Steadward Centre at the University of Alberta, Canada.

### Teaching Excellence Rewarded

The Vice-Chancellor's Awards for Teaching Excellence were awarded in 2005 to **Tamara King** and **Charles Dennis** (above right) in the Brunel Business School, **Betty Bond**, **Jennifer Jones** (above left) and **Joanne Bridger** in the School of Health Sciences and Social Care, and **Bill Leahy** (above centre) in the School of Arts.

As well as becoming Fellows of the Brunel Teaching Academy, each recipient receives £2,500 to support the development of their teaching.

### Awards

**Dr Rogemar Mamon** was awarded the Granted Chartered Scientist designation by the Science Council UK and the Granted Chartered Mathematician status by the Institute of Mathematics and its Applications.

**Professor Cecil Helman** was awarded the 2005 Lucy Mair Medal for Applied Anthropology by the Royal Anthropological Institute.

**Professor Alison McConnell** and **Dr Richard Godfrey** have been awarded the prestigious Fellowship of the American College of Sports Medicine.

**Professor John Sumpter** became the most cited researcher in Environment/Ecology (out of 2,285) according to ISI Essential Science Indicators. His Brunel colleague Sue Jobling was 8th in the same league.

**Professor W Balachandran**, School of Engineering and Design, received the IEEE 2005 Innovation and Creativity Award for his paper Numerical Modelling of Inhaled Charged Aerosol Deposition in Human Airways. The paper highlights the importance of electrical charge in lung deposition of drug aerosols, particularly in the lower airways. Delivery of submicron drug particles of appropriate electrical charge to these lower alveolar regions is essential to dilate the constricted airways of asthmatics. The model has also facilitated the understanding of pollen allergens reaching the lower alveolar regions, and in particular the thunderstorm initiated asthma. The outcome of this study should provide guidance to pharmaceutical industries to manufacture intelligent new dispensing devices, which can produce tailored drug aerosols to reach the alveolar regions requiring treatment.

Opposite: Brunel Graduate Alan Pascoe, MBE, opened the new Indoor Athletics Centre in 2005



Clockwise from top left: Emma Ania, Laura Turner and Kadi-Ann Thomas; Ben Hazel; Anita Asante; Vicki Hansford; Lizzie Hall



## Student and Graduate Highlights

### Brunel Athletes Selected for World Championships

Two Brunel students represented Great Britain in the World Athletics Championships in Helsinki in August. **Emma Ania** (Medical Biology, 100m) and **Laura Turner** (MSc Sport Sciences, 4x100m) secured their places following the National AAA Senior Championships in Manchester in July where Laura won the 100m and Emma finished fourth. Another Brunel athlete, Sport Sciences student **Kadi-Ann Thomas** finished sixth in the same race and also represented GB at the European U20 Championships in Lithuania earlier in the summer.

**The AAA Championships** saw a number of strong performances by Brunel athletes. **Ben Hazel** (first year Business Studies with Sport Sciences) won the decathlon gold, before going on to set a new personal best of 7319 at the European U23 Championships in Germany. **Lizzie Hall** (second year Physiotherapy) won the AAA U23 3000m steeplechase, setting a new championship record, before going on to set a new GB U23 record at the U23 Europeans.

**Vicki Hansford**, who is taking the MSc in Sport Sciences, won gold at the 2005 Wheelchair and Amputee World Games in Rio in her first competitive season. She set a new GB record earlier in the year.

### Brunel Student in Euro 2005

**Anita Asante**, currently studying a Politics and English BA, scored the winning goal to give the England women's football team their first victory over Norway for 19 years. Anita went on to join the England squad for Euro 2005. She was also rated one of the most promising young talents at Arsenal after she collected their Player of the Year Award in her first full season 2003/04.





**Ann Lewis graduated in 2004 and is now in her second year as a teacher of physics and games at a high-achieving boys school in Watford.**

“Though Brunel wasn’t my original choice of university, I decided to study a PGCE in secondary education there because of the helpful attitude of support staff at the applications stage. The Disability and Dyslexia Service was also an important part in my decision-making because I have dyslexia and ME, also known as chronic fatigue syndrome.

With an ambition to teach science to secondary school pupils, much of my time at Brunel was spent studying and working extremely hard in the lab. One of my most memorable experiences, though, occurred while I was out on teaching practice. I was demonstrating how we breathe and had ordered a set of sheep lungs and what a set they were! The lungs were still attached to the windpipe, tongue, heart and liver. I couldn’t believe how my students ran out of the class screaming when I placed a plastic pipe into the lungs to inflate them!

So much has happened since I graduated. In August this year I took part in a Jubilee Sailing Trust voyage, which I first heard about in Brunel’s Disability and Dyslexia Service e-newsletter. Sponsored by the Rotary Club, my carer and I set sail from Chatham in Kent to London, on one of the Trust’s accessible tall ships.

While on board I carried out day and night watches, galley duty, sail setting, helming and on the last day I climbed up the mast of the ship, out across its yard arms and stowed the sails as we cruised up the River Thames. Not bad for a wheelchair user!

The trip was such a success that I’ve been invited back as a watch leader which means I’ll be responsible for 12 shipmates and the running of all activities that need doing within a watch.

Though extremely hard work, the voyage was one of the most enjoyable experiences of my life. Caught with the sailing bug, I’m now hoping to get selected to sail for Great Britain in the next Paralympics.”



**Philip Cowley graduated in Politics in 1992, and was President of the Students’ Union 1992-93.**

“Having spent most of my time at Brunel thinking ‘aren’t academics strange?’, I promptly left and became one myself, first at Hull University and most recently at Nottingham.

All academics have a research specialism. Some choose valuable and important topics – cures for cancer, the origin of the universe, and such like. Somehow instead I became an expert in the voting behaviour of MPs. Until recently this was the political science equivalent of stamp collecting and used to be a guaranteed conversation stopper at parties – the cue for glazed eyes and the sudden discovery of someone much more interesting on the other side of the room!

Mind you, recent events have helped matters somewhat. Put simply: 26 October 2005, balding overweight 30-something academic publishes a book with the subtitle of How Blair Mislaid His Majority. Two weeks later, the Government does just that, crashing to two defeats in the Commons.

Cue lots of media interest, excited publishers (who can hear the ring of a bookshop till at a 100 paces), and some mildly envious reactions from academic colleagues, whose writings on the relationship between Marxism and environmental ethics inexplicably appear to lack any such natural publicity boosts.

For years I’d been trying to point out the extent to which rebellion had become commonplace within the Parliamentary Labour Party, only to have people look at me as if I was a slightly retarded eight-year-old who had ingested too much lead somewhere along the line. It’s always nice to be proved right!”



Left to right: Natalie Vanns; Nicholas Baldcock; Bhavesh Desai; Natalie Middleton

## More Student and Graduate Successes

**Ruth Pogonowski** received the Jack Petchy achievement Award for her commitment to volunteering – she worked at the Citizen's Advice Bureau while studying for her Law degree. Following graduation in 2005, she went on to win one of the Inner Temple's top scholarships to take up a pupillage.

Mechanical Engineering students, **Phil Alexander-Pye, Claire O'Reilly, Saima Anwar** and **Ed Arran**, won the Presentation Prize at the 2005 Merlin Aircraft Design and Handling Competition. Their prize was a ride in the only Lancaster bomber still flying in the UK.

This annual event is organised by Merlin Flight Simulation Group, and is open to student project groups from universities throughout the UK. Each team has to subject their aircraft design to a simulated test-flight on a Merlin simulator "flown" by a retired Harrier test pilot.

**Natalie Vanns**, in the third year of her 4-year Design course, won the competition to design the new Pioneer BAFTA Television Audience Award, which was used at the 2005 ceremony. She is currently on work placement at Nokia.

**Nicholas Baldock**, who graduated in 2005 with first class honours in Mechanical Engineering with Aeronautics, was awarded the J Barnes Trophy by the Association of Aerospace Universities (AAU). The award is made for the best final year project in aerospace and was presented to him by Lord Sainsbury, Minister of Science and Innovation.

Nicholas' project investigated the feasibility of a full-scale, solar-powered, high-altitude, long endurance, unmanned aircraft. The aerodynamics of a conceptual design were investigated using computer-aided tools, while an analytical approach was taken to determine the flight performance and energy requirements of the design.

**Bhavesh Desai**, in the final year of his Internet Engineering degree, won the Shell STEP London's 'Most Enterprising Student' Award 2005 at a ceremony in Shell Centre in September.

He scooped the award for his work at Mafkidea (wood4floors), a solid wood floor supplier based in Forest Hill. The small business chose Bhavesh to undertake an eight-week summer project designing, building and implementing an entirely new administration system for the company, which it estimates will save them up to £16,000 a year.

Law graduate **Claire O'Rourke** won an essay competition run by the Surrey Law Society. She will put the £5,000 prize towards her Legal Practice Course at the College of Law in Guildford. While studying, she is also working a few hours a week at the Child Law Partnership with whom she has secured a training contract.

**Natalie Middleton**, PhD in Sport Sciences, fought off global competition to win the prestigious 2005 American College of Sports Medicine International Scholar Award. Her prize includes funding to attend the University of Colorado for two

months to work with a renowned cardiovascular physiologist and an all expenses paid trip to an international conference in Nashville.

### Bright Ideas Winners

Thirteen Brunel students won cash prizes to help them develop their business ideas at the award ceremony of the Bright Ideas competition. The aim of the event, run by the WestFocus Entrepreneurship Centre, is to find budding entrepreneurs amongst the 125,000 students in the WestFocus Consortium. Five Brunel students went home with cheques of £1,000 and a further eight received runners-up awards of £250 at the awards ceremonies at Westminster University.

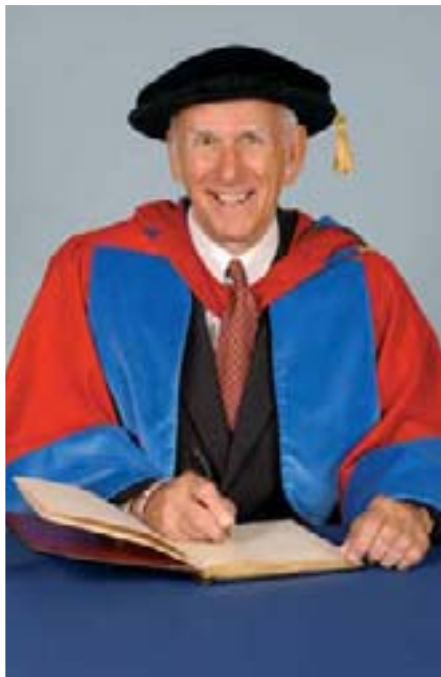
The five winners were: **Sam Bennett, Lucy Mott** and **Jenny Gudgeon** – all Business and Management students who worked together on developing Sports Camps for Children; **David Simpson** (who also scooped a runners-up award), a PhD student who proposed a new concept for orthodontic tooth replacement; and **James Perowne**, a multi-media student who designed a new interactive web shopping tool.

The runners up were: David Buckley; Ruth Crawford; Andrew Tattersfield; Ozma Shaikh; Jan-Erik Pihl; Mark Sheedy; Wenjuan Zheng and Zoe Harvey-Lee.





**Clockwise from top left:  
Sir Alan Sugar; Honorary  
Fellows; Walter Greaves;  
Ann Wild**



**The background of  
this page shows names  
of Brunel Honorary  
Graduates across  
our 40-year history.**

## Honorary Degrees 2005

### **Sir Alan Sugar Receives his Honorary Degree**

Amstrad Chairman Sir Alan Sugar was among the prominent names who received honorary degrees from the University in 2005.

Speaking at the award ceremony, Sir Alan said: "I believe that our engineers, indeed all those in the scientific community, are the poor relations in Britain's economy. It's time that we recognised the true value of the scientific community and started rewarding it in terms of money and status."

### **Former Chair of Council Honoured**

Walter Greaves, former Chair of Brunel University Council, spoke of his "affection for and desire to serve the University" after receiving his honorary degree in July. He spent five years as Chair of Council, following a long and successful career in the automotive industry. He was succeeded in 2005 by Jeffrey Ellwood, who was Director of Brunel University Enterprises Ltd (BUEL) from 2001-02.

### **Honorary Degrees were also awarded to:**

- Mr Karan Billimoria  
*Entrepreneur*
- Mr Paul Dickenson  
*Alumnus and sports broadcaster*
- Dame Mary Richardson  
*Chief Executive, HSBC Education Trust*
- Dame Stephanie Shirley  
*Entrepreneur and philanthropist*
- Sir Cyril Taylor  
*Chair, Special Schools Trust*
- Ann Wild  
*Alumna and paralympic athlete*

### **The 2005 Honorary Fellowships were awarded to:**

- Marianne Elliott
- Barbara Fisher
- Lyn Gray
- Joe Hardman
- Ted Knight
- Stephen Roberts
- Ellen Williams



### **The Companion is Set to Transform Life for the Housebound Elderly**

A device created by Brunel engineers is set to transform the lives of housebound elderly people. The revolutionary system is designed specifically for those unable to leave their homes to do their weekly shopping. The system, called "The Companion", is currently being trialled with Bristol City Council and Somerfield. The majority of users in the pilot scheme are in their eighties and have quickly learned how to use the simple device, increasing their self-sufficiency.

Professor Heinz Wolff, who designed the system, said "The Companion has been developed to provide a new level of services to the elderly. It has also been designed to carry out other functions such as reminding people when to order repeat prescriptions, when to take medication, or to log care workers in and out of their homes."

Based around a simple barcode scanner, users don't need any of the technical and computer skills required for normal Internet shopping. Using a simple handheld barcode scanner, users scan items that need restocking, and the system automatically places an order by sending an email directly to the supermarket. The system reads each item and speaks choices back to the user, ensuring that the right product has been ordered.

### **Brunel to Spearhead e-Government Research Think-tank**

The School of Information Systems, Computing and Mathematics (SISCM) led by Professor Zahir Irani, has been selected to lead the UK's first dedicated e-Government think-tank, the Network for e-Government Integration and Systems Evaluation (e-GISE). The purpose of the Network is to help local authorities realise the expected benefits associated with the significant investment in e-Government technologies and will promote national debate and identify the research strategy needed to increase understanding of e-Government.

The e-GISE Network will bring together academics in the field of e-Government as well as over 50 local authorities, public sector agencies and private companies to form strategic partnerships.

## A Year of Research

### **2005 Research Awards**

The **Corac Award for Research with Enterprise Promise** was presented to Professor Ian Sutherland, David Hawes, Lee Janaway and Dr Philip Wood of the Brunel Institute for Bioengineering (BIB above). The BIB team has developed a range of equipment that can be used for drug purification and manufacture. It can be scaled from analytical to manufacturing levels and offers industry a quicker route from discovery to market for new pharmaceutical products, better quality control and a greener, robust technology using less solvent.

A spin-out company, Dynamic Extractions, has been formed to commercialise the technology and has successfully completed a number of large, lucrative purification projects for industry.

### **The FusePR Award for Research of Social Impact**

was presented to Peter Beresford, Professor in Social Policy at Brunel University and Director of the Centre for Citizen Participation at Brunel, for his work into identifying the barriers facing disabled people, such as public attitudes, services and Government policy. Professor Beresford's co-contributors to the research were Allan Sutherland, of the Edward Lear Foundation, and Mike Shamash (centre).



The research findings are already helping to form a basis for influencing Government policy. Professor Beresford last year gave oral evidence, based on the study's results, to the Joint Parliamentary Committee on the draft Disability Discrimination Bill, which will amend the Disability Discrimination Act, 1995.

The project is believed to be the first study since the introduction of disability discrimination legislation in the 1990s, exploring this issue, which has been carried out entirely by researchers who are themselves disabled.





## Diamond-like Carbon Used as Weapon Against Heart Disease

Research being carried out by **Dr Ian Kill**, School of Health Sciences and Social Care, in collaboration with **Professor Joe Franks**, School of Engineering and Design, may have found the key to preventing blockages that cause thrombosis and heart disease.

By coating flat sheets of collagen – Permacol™ – with a diamond like carbon (DLC) substance, rolling them up into tubes and inserting them in the body, and bypassing the clogged or blocked blood vessels, they believe that future clogging will be prevented. DLC coatings are currently used on catheters that commonly become clogged due to encrustation but have not previously been used as coatings inside blood vessels.

Dr Kill explains: “DLC is tough as well as slippery so substances do not stick to it.

It is also inert and does not generate an immune or inflammatory reaction within the body. It is therefore an ideal substance to be used for this purpose. There is plenty of research to be done but the findings could potentially have a huge impact on tackling one of Britain’s major fatal diseases.”



### Unique Research Archive Comes to Brunel

Xavier Mendik is Director of the Cult Film Archive, an internationally renowned research centre of cult and underground cinema that relocated to Brunel's Screen Media Research Group in January 2005. The Archive has an extensive collection of audio-visual resources that are available to researchers working in the fields of cult, underground and popular film. It is also home to the annual film studies book series *AlterImage* (Wallflower Press) and has developed a broadcast documentary series on cult film figures and traditions in conjunction with Hem Productions Ltd.

Xavier Mendik (above left) has published on a wide variety of cult and horror film traditions, with particular reference to issues of representation within 1970s European and American underground and exploitation cinema. He has also been producer, writer and presenter for much documentary film, most recently *Cabin Fever: Fear Today, Horror Tomorrow*, and has been consultant and presenter for *Donnie Darko* (the Director's Cut) DVD and for the Channel 4 documentary *100 Greatest Scary Moments*.



### A Creative Approach to Music

New academics in Brunel's innovative and increasingly well-known music arena are making their mark in the world of contemporary composition. **Joe Duddell**, a former Composition Fellow at the Royal Academy Music, has just been commissioned by the LSO to write a piece that will be performed at the Barbican later this year. His more recent works *Not Waving But Drowning* and *Ruby* were nominated for the BBC Radio 3 Listeners Awards.

A work by **Harald Muenz** (above centre), *dissieme*, is one of six pieces to be shortlisted in the first International Live Electronic Music Competition run by Harvard University Studio for Electroacoustic Composition, and he will take part in a week-long festival at Harvard University in March. His research interests include music and speech, live electronic music in combination with instruments/voices and concepts in between composition and improvisation.



### New Appointments Enhance Sports Research Profile

**Professor Susan Capel** (top right) returned from a period of research study leave to take up the post of Head of School of Sport and Education in July. Her background is in physical education, and her research interests include both physical education teacher education and physical education in schools. Professor Capel has published extensively and has edited a number of key textbooks – one of which, at 60,000 copies, has become one of Routledge's best selling books.

**Professor Ian Campbell** (bottom right) joined Brunel in September as Sport Sciences Subject Leader in the School of Sport and Education. He brings experience as former Head of Sport at both Edge Hill University College and at Staffordshire University, together with business expertise from his most recent position as Head of Business Development at Lane4.

Professor Campbell's particular area of research expertise is in sport physiology, most recently examining the influence of level of spinal cord injury on the physiological and metabolic responses to exercise and performance. The findings of his research have been applied by wheelchair athletes training and preparing for the Paralympics.





### **New Engine Offers Huge Environmental Benefits**

Researchers in Brunel's Combustion Engines Research Group are helping to build a unique engine capable of automatic switching between two and four stroke operations that could offer up to 30 per cent benefit in fuel consumption and substantially reduced CO<sub>2</sub> emissions, as well as class-leading performance.

The research will initially be focused towards applications for premium cars, with longer-term plans to develop it for mid-sized family cars. **Professor Zhao** (above), head of the Group, said: "The switchable two/four stroke engine could change the future of car engines in terms of cost, drivability and impact on the environment."

The £1.9 million project, in collaboration with Ricardo UK Ltd DENSO, MA2T4 and the University of Brighton, is part funded by the Department of Trade and Industry under its 'Technology Programme'.



### **Switching Young Viewers on to Current Affairs**

Researchers in Film and Television Studies have won a grant of £108,393 from the Arts and Humanities Research Council to investigate why TV news and current affairs programmes are such a turn-off for younger viewers.

Project leader Dr Michael Wayne, will head a study entitled TV news, current affairs and young people: the problem of 'disconnection'. He and fellow team members Professor Julian Petley and Dr Lesley Henderson will talk to both TV broadcasters and young television audiences to discover what makes younger viewers switch off and try to discover what could be done to make these programmes more accessible to them.

**Professor Tassos Karayiannis** has been appointed as Professor of Thermal Engineering and Deputy Head of the School of Engineering and Design. He joins with a project worth over £1 million to study boiling and condensation in microchannels, and Brunel will be the lead academic institution in a research consortium that also includes Queen Mary, Edinburgh, Heriot Watt and Nottingham Universities, working alongside nine international industrial partners.

According to Professor Karayiannis, "This work will place the UK at the forefront of research and development of micro thermal systems for a variety of applications, including the process and refrigeration industries, computers and electronic devices."

**Professors Pascale Allotey and Daniel Reidpath** (above) are a husband and wife team who have recently joined the School of Health Sciences and Social Care from Australia.

Professor Allotey is a medical anthropologist and public health specialist with an international reputation in a wide range of areas that include refugee health, human rights and health, racism and health, tropical diseases, international health, women's and children's health; and reproductive health.

Professor Reidpath is a social epidemiologist whose special areas of interest encompass the effects of social, cultural and environmental context on health.

# 2006 and Beyond: What the Future Holds



If the last 40 years have brought about a huge transformation of Brunel, it is clear that the essential qualities that have made this University such a major player in the world of higher education are still driving us forward with vision and optimism.

This is a University renowned for adapting to changing demands, seizing new ideas and technologies, believing that its students are its most valuable ambassadors and that its courses and research should be useful not only to our graduates and their employers but also to the world at large. These qualities will help us prepare for what we expect will be a successful outcome from the RAE in 2008. They will ensure that the challenges of recruiting the best undergraduates in an era of top-up fees are met – and the excellent package of scholarships we have put together for 2006 is the first step in this process. It is also these qualities that make such an impact on the world stage where we are attracting more students and collaborating with an ever-growing number of businesses and universities.

Brunel's forward-looking investment in a modern, unified campus and in the best research and teaching staff will ensure quality courses and services for our students well into the future. We anticipate with particular excitement the prospect of playing a major role in supporting athletes and coaches here on campus at the 2012 Olympics.

We are building on our unique past to develop an energetic and ambitious University that will continue to play an ever-increasing role in the life and economy of the nation and on the international stage.

**Professor Mansoor Sarhadi**

Acting Vice-Chancellor and Principal  
January 2006





## 2006 Alumni Reunions and Events

- 20 May** **Maria Grey and Borough Road Colleges** Formal luncheon for all past students and staff who attended these colleges up to and including 1976.
- Education Open Day** and reunion for all past students who work in the education sector. Visit the new Education facilities at Uxbridge, meet staff and find out more about developments at Brunel.
- Alumni Sports Afternoon** for competitors and spectators.
- 27 May** **Brunel Founders Dinner** A formal black tie dinner for alumni and staff who attended Brunel at Acton and Uxbridge up to and including 1974.
- 3 June** **Late 1960s and the 1970s decade** Informal evening reunion for alumni and staff who attended Brunel University, Shoreditch, Borough Road and Maria Grey Colleges, or the West London Institute in the late 1960s and throughout the 1970s.
- 10 June** **1980s decade** Informal evening reunion for alumni and staff who attended Brunel University and the West London Institute during the 1980s.
- 17 June** **1990 – 1995** Informal evening reunion for alumni and staff who attended Brunel University and the West London Institute during between 1990 and 1995.
- 1 July** **1995 – 2000** Informal evening reunion for alumni and staff who attended Brunel University and Brunel University College between 1995 and 2000.

**Post-2000 alumni events are being planned from 2007**

*All events to be held at Brunel's Uxbridge Campus*

Three Members of Parliament were amongst the Brunel graduates attending the Brunel Government Alumni Reception at One Birdcage Walk in November 2005. Left to right: Rudi Vis (Finchley and Golders Green), Claire Ward (Watford) and Shailesh Vara (NW Cambridgeshire).

**ISSN** 1742-0075

**Editor** Marianne Bevis,  
Head of Publications

**Photographer** Sally Trussler

**Design** Brunel University Press

**Additional Photos**

BBC (page 30)

John Bennett (page 11)

Chris Milner (page 8)

Stamp images © Royal Mail Group plc  
2006 (page 11)

**Acknowledgements**

Sue Curley, Head of Alumni Relations  
Kitty Chisholm, Director of Development  
The graduates, staff and members of Council featured in this Report for giving their time so generously.

# 2006 Calendar of Events

24 January	<b>Dinner to Celebrate Engineering</b>	Institute of Civil Engineers
6 March – 7 April	<b>Stephen Brunel Hurst: Retrospective</b> (art exhibition)	Uxbridge Campus
8 March	<b>Gretel Dowdeswell</b> (concert)	Uxbridge Campus
26 April	<b>IKB Awards</b> (live final)	Science Museum London
8 May – 2 June	<b>All Our Own Work</b> (art exhibition)	Uxbridge Campus
10 May	<b>Brunel Indoor Games</b> (athletics)	Uxbridge Campus
12 May	<b>Netball Super League Final</b>	Uxbridge Campus
12 May	<b>Design a Birthday Card for I K Brunel</b> Prizegiving (art competition)	Uxbridge Campus
13 May	<b>7-a-side Football Competition</b>	Uxbridge Campus
4 – 7 June	<b>Engineering and Design Show: Made in Brunel</b>	Business Design Centre London
26 June – 8 Sept	<b>40 Years of Brunel University</b> (art exhibition)	Uxbridge Campus
6 July	<b>Charter Day</b>	Uxbridge Campus
3 July – 31 August	<b>Moving Forward</b> (art exhibition)	Uxbridge Campus
20 – 26 August	<b>National Schools Rugby Competition</b>	Uxbridge Campus
28 September	<b>Southbank Sinfonia</b> (concert)	Cadogan Hall London
11 October	<b>HSBC Bicentenary Lecture</b>	Uxbridge Campus
23 November	<b>Brunel Community Fellowship Awards</b>	Uxbridge Campus
27 Nov – 15 Dec	<b>Alan Bennett: The Brunel Years, 1969-2006</b> (art and design retrospective)	Uxbridge Campus