Professor wins IEEE Prize for Allergy Technology

Prof. W Balachandran, School of Engineering and Design, is a recipient of the IEEE 2005 Innovation and Creativity Award for the paper titled “Numerical Modelling of Inhaled Charged Aerosol Deposition in Human Airways” published in the IEEE/IAS Transactions. The simulation results reported in this paper highlights the importance of electrical charge in lung deposition of drug aerosols, particularly in the lower airways (18 – 23 generations). 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.

MULTIMEDIA GRADUATE’S “360° FASHION PHOTOS” wins Bright Ideas competition

James Perowne, 26, graduated this year from Multimedia Technology and Design. He is now developing an interactive tool for the fashion industry to aid online shoppers with their purchases.

A ‘360° Fashion Photo’ is a rotating image which allows web surfers to view a person from any angle. Users can take control by rotating and zooming to bring still photographs to life. 360° Fashion Photos will revolutionise images on the web in the fashion world. Instead of many static shots of the same outfit, a model can do a ‘twirl’ in a single moving image.

The initial idea was conceived during the 2nd year of James’s undergraduate degree and was inspired by similar multiple camera techniques developed by the film industry (first seen in the movie, Lost in Space (1998). What originally started as a personal project was eventually taken further as the focus of his final year project. In June, James won the Bright Ideas competition, run by West Focus, which created some interest from a few investors at the award ceremony. Brunel Science Park saw the potential of this technology and awarded James the Proof of Concept Fund to further develop his prototype into a commercially viable product.

The complete 24 camera system was designed and built over a 14 month period. By triggering the multiple cameras to take simultaneous photographs, Macromedia software can then be used to stitch all the images together to form a smooth rotating image ready for the web. A small studio was recently set up in the Uxbridge Industrial Park to house the entire operation. The studio, with its dressing rooms, make-up areas, photography studio and workstations is all ready to launch next month to the fashion industry. The project is run by James Perowne with the help of a small team of students on work placements from Brunel University. Currently the company is in talks with Nikon to get much needed sponsorship for new equipment. Visit www.lobsterstudio.co.uk to view the 360° Fashion Photo prototype.
My name is Wendy Obichukwu and I’m studying BEng Computer Systems Engineering. In 2004 I worked as a student engineer at 3M plc for my industrial placement. On my first day at 3M I was nervous and felt out of my depth, as the prospect of dealing with real projects with actual responsibilities means that you are accountable for your actions in the workplace. During my placement, I worked on a major project and I was surprised by the responsibility I was given (no not making tea and coffee) – the design and implementation of a quality control software engine. To be honest, I was worried because I wasn’t sure that I could deliver what was necessary, but through research, hard work and some help from my colleagues, the project was successfully completed and it was a great feeling that I have made a valuable contribution to the company. The placement gave me the opportunity to learn about project management, software development and build up a network of business contacts that will come in handy for my graduate career. It also helped me to improve the quality of my work and feel more confident in my capabilities while earning a decent wage at the same time.

I’ve always had a keen interest in computers and their application. I chose Multimedia Technology and Design at Brunel because it covers a broad range of new media topics in enough detail to give you a solid grounding in each. I was particularly interested in Flash taught in the first year, so I continued learning in my own time, writing small games and programs in actionscript.

As my course is a thick-sandwich degree, I spent the third year working in London on a placement. I still had a keen interest in Flash and managed to get a placement as a Flash developer for a leading online agency with the portfolio I had built over the past 2 years. My placement was exciting and stimulating. During my time there I worked on games for clients such as McDonalds, BBC, Nickelodeon, ITV, Fox’s Biscuits and Dominos Pizza where I was solely responsible for the Flash development. I learnt a lot on my placement and I would recommend this mode of study.

I have enjoyed the extra curricular activities and facilities that Brunel has to offer. I joined the karate club (not having done it before) and it has been a great experience. I have travelled to India, Venice and Belgium with the club to learn from karate masters from across the world.

For my project this year, I have been doing a detailed study into Viral Marketing and how content spreads across the web. I’ve developed a bespoke tracking system that tracks data from Flash files as they spread across different domains and websites, as well as details on how people use them. To test my tracking system and my viral marketing theories, I developed a seasonal game – ‘Snowman Salvage’ that I launched 2 weeks before Christmas. In the 4 weeks since the game launched, I have tracked it on over 300 different websites and it has been played by 1.5 million people. The game has recently been licensed by a major online publisher.

While at Brunel, I have also worked as a new media freelancer and have built up a substantial client base. This year I set-up incorporated with a friend who I had met on the course. Things are going very well so far with lots of exciting new clients. A lot of the third year modules that I am currently doing have been great for preparing me for the outside world. My favourite is project management where we are learning a lot of valuable skills important in running your own company and managing other people.

I’d encourage people to study Multimedia at Brunel as the course gives you a solid base which you can build upon in all areas of new media, and the opportunity for a placement gives you real commercial experience, a great advantage when looking for a job after university.

Paul Croft, current final year BSc Multimedia Technology and Design

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Multimedia Student launches successful
VIRAL TRACKING GAME ON THE INTERNET

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Paul Croft, current final year BSc Multimedia Technology and Design
Brunel Design has always had an excellent reputation as one of the leading design schools in the country. It was this coupled with the structure and course content that helped me decide to study at Brunel. The BA course has a strong emphasis on practical learning through making. Modules cover a wide skill base, from PIC programming and mechanics to graphics and sketching techniques. The design school’s links with industry mean that graduates are highly employable, with almost all students opting to study for a year in industry. These links to industry widened my design experience when Pioneer approached Brunel Design in my second year. As sponsors of the Bafta Television Awards they required a design for the Pioneer award, to represent themselves at the ceremony. My design was chosen and presented to Channel 4’s Green Wing in April 2005, and will also be used in 2006. As a reward I was able to attend the ceremony on the night. The competition gave me my first real “live” design project, widening my skills by liaising with various suppliers and technicians, and working to a budget and deadline. This project certainly helped when applying for an industrial work placement. I am currently working for Nokia which is proving to be a very valuable experience, developing my knowledge of the working world as well as a wide range of design skills.”

Natalie Vanns, current BA Industrial Design and Technology student

**PROFESSOR JOSEPH GIACOMIN JOINS BRUNEL DESIGN**

Prof. Joseph Giacomin has recently joined the university, assuming responsibility for the Design subject area of the School of Engineering and Design. His teaching and research is in the area of Human Factors, thus his arrival strengthens our already enviable position as one of the leading European centres for human design. Prof. Giacomin’s “Perception Enhancement Systems” research group investigates the laws governing the human perception of vibration and sound, with particular emphasis on applications involving road vehicles. The emphasis is on the development of technologies for enhancing the features which affect the interaction between people and the machines they use. His research team has major ongoing research projects with several industrial partners, and has a strong publications track record in both engineering and ergonomics.

Prof. Giacomin is well travelled, having come to us after working for Sheffield University, for Centro Ricerche Fiat in Torino, Italy, and after working for both the US Army and Navy in Washington DC. Besides the UK, he is also involved in numerous scientific collaborations in both Italy and the USA, and is a visiting lecturer of the Politecnico di Torino, one of the top 3 Italian universities of science and engineering. Joseph has made clear his personal motivation for coming to Brunel since, in his own words, “Brunel Design is simply the best design programme in the United Kingdom, no other university approaches Brunel’s quality and reputation”. We hope that everyone will join Spotlight in offering a warm Brunel welcome to our new colleague. Joseph can be contacted at his e-mail address joseph.giacomin@brunel.ac.uk and his team’s research activities and publications can be downloaded at the website www.perceptionenhancement.com.

**Design student wins prestigious competition to design a BAFTA award for Pioneer**

"Brunel Design has always had an excellent reputation as one of the leading design schools in the country. It was this coupled with the structure and course content that helped me decide to study at Brunel. The BA course has a strong emphasis on practical learning through making. Modules cover a wide skill base, from PIC programming and mechanics to graphics and sketching techniques. The design school’s links with industry mean that graduates are highly employable, with almost all students opting to study for a year in industry. These links to industry widened my design experience when Pioneer approached Brunel Design in my second year. As sponsors of the Bafta Television Awards they required a design for the Pioneer award, to represent themselves at the ceremony. My design was chosen and presented to Channel 4’s Green Wing in April 2005, and will also be used in 2006. As a reward I was able to attend the ceremony on the night. The competition gave me my first real “live” design project, widening my skills by liaising with various suppliers and technicians, and working to a budget and deadline. This project certainly helped when applying for an industrial work placement. I am currently working for Nokia which is proving to be a very valuable experience, developing my knowledge of the working world as well as a wide range of design skills.”

Natalie Vanns, current BA Industrial Design and Technology student
Brunel MSc Automotive and Motorsport Engineering – Student Perspective

Albert Lau, from the USA, joined the MSc in Automotive and Motorsport Engineering in September 2004. I chose to study at Brunel because the Motorsport course offered was unique. There are very few comparable courses available. The Motorsport course not only teaches the engineering principles behind building a racecar but also other aspects of the sport that are usually not studied in depth at other universities.

The Automotive and Motorsport MSc was a new course this year. The key to making the first year a success was the support of the university and the determination of the students. The lecturers understood the importance of being constantly in contact with industry. One link with industry was visiting guest speakers. Another example of this is the Autosport show in Birmingham. It is the single event each year that brings together every facet of the motorsport community. The university knew the importance of this and provided the means for all of the students to take part.

In this first year, the lecturers were very receptive to our new ideas regarding the course. By being open to student feedback, they better understood our needs and what we wanted out of the course. During the initial weeks of the course when forming our Formula Student team, we rearranged the team structure as we saw fit and the university adjusted their academic group projects likewise. This kind of latitude is not generally found at most universities.

The Formula Student project is, in my opinion, the single greatest engineering exercise because it has value. Value because it is a year long project that mimics the real world industry in every shape and form. The project is not only an engineering design exercise, but one of business and team management as well. The teams are created with a hierarchical structure not dissimilar to professional race teams. They work to a schedule and budget and are expected to promote their own team image through marketing and sponsorship. On top of all this, the teams have to design, manufacture, and race a one-off prototype racecar in the span of one year. No other student project comes close to replicating the real world than Formula Student. The skills that I learned and the experiences that I gained were integral in making myself marketable to the motorsports industry.

While finishing up my degree course at Brunel, through the links that we acquired with industry, I was offered a position at a leading British Touring Car team, West Surrey Racing. I feel that I have accomplished all the goals that I set for myself when I arrived at Brunel; the university has provided me with a strong foundation on which to build a successful career.

3D Body Scanner Procured in the School

A new 3D Body Scanner was purchased in the School in January 2006, jointly funded by the School and the HEFCE SRIF2 project BRUN07/033 “Intelligent Virtual Modelling”. Prof. David Wright is the principal investigator of this SRIF2 project, and Dr Jinsheng Kang, Dr Sheng Feng Qin and Mr Yue Zhao (PhD student) are also working on this project. The latest NX12 3D Body Scanner was manufactured by TC2, USA (http://www.tc2.com). It has 24 cameras in 4 columns, and 4 Pentium IV computers to process the scanned data. The NX12 3D Body Scanner scans the whole human body in less than 6 seconds and produces a true-to-scale 3D body model within minutes. It has a safe white light body scanning system.

The system operational parameters are as follows:
- Point accuracy: <1 mm
- Circumferential accuracy: <3 mm
- Data point grid density: 2x2 mm
- Scan duration: 6 seconds
- Data density: 800,000 points
- Measurement extraction: Automatic
- Scan volume: 2.1m x 1.2m x 1.0m

The system comes with a 3D Body Measurement Software, which can automatically extract anthropometrical data at user customisable definition, and output VRML format 3D body surface models. Also, additional software Geomagic Studio 8 and Fashion 6 (http://www.geomagic.com) was purchased to further refine the 3D surface model.

The 3D human body surface model can be used in conjunction with a motion capture system (A 7 cameras Eagle Digital System from MotionAnalysis Co. USA was purchased in July 2004 under the HEFCE SRIF2 project BRUN07/033) for realistic human modelling and simulation, which has a wide application in product design for human factors, simulation of human’s reaction in hazardous environment, biomechanics modelling, medical applications and health care, Virtual Reality, computer games and films. It can also be used for garment and apparel design, body shape analysis and survey, health and fitness management. We expect the new equipment to boost research activities within the School in these areas.

The NX12 3D Body Scanner is installed in TB209. If anybody within the School wishes to use it, please contact Dr Jinsheng Kang Ext. 66330 or Mr Hui Yu (PhD student) Ext. 67079.
New Wireless Communication Systems MSc – Student Perspective

“I’m currently in my second semester of the new MSc in Wireless Communication Systems. My background is mainly in IT, as I graduated last year with a BSc in Computer Science with Distributed Systems.

The reasons that I was attracted to this course and to this University are many, and since I’ve joined the course the reasons have increased. The concept of ‘wireless’ in communications and networks has been very ‘hot’ in recent years. The demand to fill jobs in this area has increased a lot. Since I was interested in networking, I decided to search for a degree that would broaden my knowledge to match this interest. I came across my current course on the web.

I, and my fellow students, came from different backgrounds. Some graduated in Engineering and others in Computing. At the beginning this mixture troubled me, but since I started this course I’ve realised that both skills are necessary, since wireless communication is based on both computing and engineering.

Now, we help each other and we share our knowledge through group projects and meetings. The lecturers are very friendly. They not only focus on the textbook material, but also point out to us new technologies derived from their current research and techniques they’ve learned while they were employed in industry.

Brunel University is massive in terms of surroundings. New laboratories with high-tech hardware and software have been built. These facilities are available to any student at any time we wish to use them as part of our projects. There is a library that holds a big collection of textbooks and journals that are updated frequently, classrooms that contain digital projectors and media equipment which makes the lectures more interesting and interactive, a gym, basketball courts, football pitches and other facilities for any other sport you can imagine. A new refectory building providing high quality food, and even 3 bars and a night club where you can entertain yourself, a local shop, a bank, a medical service, superb accommodation and other facilities that I haven’t even discovered yet. Besides the facilities, I’ve also come across great services too. Every day seminars are conducted by experienced people who present to us new emerging technologies, marketing issues, new perceptions in the industry or advising us on subjects such as time management, reducing stress, writing skills, passing an interview, etc. Also there are plenty of societies that you can join based on your religion, ethnicity, sport activities or other interests.

These are a fraction of the reasons I like to be a student at Brunel University. By reading all the above, I feel like I am trying to promote this University the same way as somebody employed by the Marketing Department, but I’m not. I’m just a student like everybody else who has been amazed by this course and what the University as a whole can provide during your studies. I’m enjoying being a student here so much that I’m looking forward to extending my studies by doing a PhD.”

Article by Dionysios Skordoulis

MA Design & Branding Strategy – Student Perspective

My home country is China and before coming to Brunel I was a graphic designer, then an account manager in an advertising company during which time I developed a series CIS for clients. Moving into the retail industry and working with retail partners, we opened about 30 chain stores in Henan province (China) with our own brand. Through this experience I felt that a strong and unique brand is the key-point driving businesses to be successful, but I lacked the knowledge of brand management and strategy to further my ambitions. With these needs, I came to Brunel and took the MA Design and Branding Strategy course which is one of the leading branding and design management courses in Europe.

During the academic year I enjoyed my life at Brunel. The classmates were from many countries, so I could experience different cultures. We learned and helped each other and often had parties and played games together.

I gained good communication skills through working with others and being encouraged and motivated by the presentations and team projects. As a result of the very professional lecturers and tutorials and the willingness of the lecturers to always help us, all the questions I brought to the course on branding were answered. I am missing the campus, the library, the dorm, the classmates and the lecturers.

My final dissertation focused on “Branding the Shopping Experience: Supermarket branding in China”. This was a series of studies and design audits of Tesco and other retail organizations. I interviewed a number of key people within the retail and branding field. I also surveyed 150 people in Shanghai, Beijing and Guangzhou with questionnaires combining Chinese and European cultures and management methods. This enabled me to create a touch point model for Chinese supermarkets to improve consumer's shopping experience.

On returning to China I worked for Yolo (Shanghai) Home Decoration Product Sales Co Ltd as a Marketing Manager in Shanghai. Yolo is the biggest home decoration experience centre and decoration product firm in China that has 800 showrooms. My main duties: marketing research and analysis, sales planning, media planning, VI communication and managing, branding strategy and management. My achievements at Yolo: build up the VI system, organized the news conference and opening ceremony, made and implemented adv-campaigns and promotions and communicated the company's brand value. I used my touch point model in my work to great effect. When I applied for this job I had 3 interviews and competed with many applicants, but I had enough confidence derived from my working experience, my educational background and skills learned from Brunel. Finally I won this job through my competition presentation.

Recently, because of a family location move I changed my job. I am currently working for Jameish (Beijing) Brand Consulting Co Ltd as a Senior Brand Consultant. I am in charge of the commercial group’s brand strategy and corporate culture project. It's providing me the opportunity to practice what I learned from Brunel and getting more working experience. I believe I will open my own consulting firm soon. My dream is to create a top global brand.

Ma Bing graduated in MA Design & Branding Strategy in 2004
The Brunel Racing Team has discovered the formula for success. The team won the prize for Most Fuel Efficient vehicle at the Formula ATA event held in Turin at the end of September, beating stiff competition.

Brunel Racing was the top UK team coming fifth overall in the competition in Italy. Their win is another coup for Brunel University's School of Engineering and Design as it comes hot on the heels of the Brunel Masters Motorsport team winning first prize in Class Two of the annual Formula Student racing competition in July.

The nine team members and two racecars from Brunel University travelled to Italy with high hopes for the 2005 development car – a new, lightweight approach to Formula SAE cars. As the first team to complete all aspects of the safety scrutineering, Brunel Racing had a rare opportunity to refine the vehicle set-up and prepare for the main events.

Despite a failure in the gearshift system resulting in the vehicle being stuck in third gear, the light car was able to regain any straight line deficit in the corners, and even managed to overtake its competitors on track at the time.

Jonathan Gray, Brunel Racing Team principal, commented, "As a result of the small single cylinder engine, the team managed to use the least fuel to cover the full race distance, winning the fuel economy aspect of the event. It was a great result for the team."

Formula ATA is a new event organised by the Italian Automotive Technical Association. It runs under the same rules as Formula Student. The annual event is dedicated to single-seated cars, constructed by students from national and international universities.

For further details on Formula Student, please visit: http://www.imeche.org.uk/formulastudent/index.asp
For further details on Formula ATA, please visit: http://www.ata.it/formulaata/
Brunel Masters Motorsport, please visit: http://www.bm2.org.uk

In November 2004, Dr David Smith from the e2v centre for electronic imaging (CEI) at Brunel University was invited to present some of his research at Westminster as part of the first "Britain's Young Physicists" reception. The research poster presented by Dr Smith at Westminster was entitled “From Night Vision to Mapping the Heavens” and described work carried out by members of the CEI characterising the operational properties and radiation tolerance of electron-multiplication charge coupled devices for application in the Radial Velocity Spectrometer instrument of the planned European Space Agency Gaia mission. Gaia is a cornerstone mission due for launch in 2011 to start its 6 year mission to accurately map the positions of a billion stars in our galaxy.

A number of MPs were present at the reception and were interested to hear about the application of imaging technology, originally developed for night vision purposes, in the planned scientific imaging devices of an upcoming space mission.

The CEI is part of the Imaging for Space and Terrestrial Applications group within the School of Engineering and Design, and was officially opened in March 2004. The CEI was set up in partnership with e2v technologies, a world leading scientific imaging sensor manufacturer, to carry out research and development of CCD and active pixel sensor imaging devices for a number of applications.

Further information about Gaia and the many other imaging projects the group is involved in can be found on the group's web pages: http://www.brunel.ac.uk/cei
http://www.brunel.ac.uk/about/acad/sed/sedres/si/ista/
BRAWN AND BRAINS:
Brunel University honours Ferrari Technical Director Ross Brawn
Awarded honorary doctorate in 24th January ceremony

Brunel University has awarded an honorary doctorate in engineering to Ross Brawn, Technical Director of Ferrari. The doctorate was conferred at a Motorsport Engineering themed dinner on 24th January 2006, an event celebrating the bicentenary of the birth of Isambard Kingdom Brunel, at which both Ross Brawn and Sir Frank Williams were speaking. Over 240 guests attended the black tie dinner and guests included Brunel University honorary graduates, alumni, current Motorsport & Engineering students, Student Racing Teams, University stakeholders, supporters and donors; Presidents of the three main engineering institutions (ICE, IMechE and IEE) as well as representatives from Red Bull Racing, BDRC, BMW Motorsport, Lotus Engineering, WilliamsF1 and Ferrari.

In his role as Technical Director at Ferrari, Brawn co-ordinates the development of the Ferrari Formula One car, but is most famous for strategic pit wall decisions which are said to have contributed to many of Ferrari’s victories. His career in Formula One racing spans over 30 years and includes stints at Williams, TWR-Jaguar and Benetton.

Having dropped out of an Engineering HNC course to join Frank Williams Racing, Ross is an honorary member of the Institute of Mechanical Engineers and holds a Laurea Ad Honorem from Ancona University.

Prof. Steve Hodkinson, Pro-Vice Chancellor of Brunel University adds: “As one of the most respected figures within the motorsport industry, Ross has been an inspiration to many of our students. Since engineering is central to Brunel’s identity and Motorsport Engineering in particular is one of the areas in which the School excels, awarding a Doctorate to Ross is particularly fitting. We hope we will both look forward to continued success on the track and in the workshop.”

WORK PLACEMENT WINS
Computer Systems Engineering student a job

As a mature overseas student, choosing the right university was an important task for me. Having attended Brunel’s Open Day four years ago, I became excited and motivated at the prospect of becoming a Brunel student. So rather than take up a place at another university, I chose Brunel. I decided to do Computer Systems Engineering because I love computers and the course provided the comprehensive and in-depth study of all the component areas of computer systems that I was seeking.

Student life at Brunel has been very rewarding. Amongst my more interesting student experiences was trying to learn Spanish. I have never regretted choosing Brunel. I found my lecturers extremely dedicated and supportive. They displayed genuine interest in my welfare, providing support for both academic and non-academic issues. Now as a graduate I can list them my friends. There are also numerous other support facilities whose help has been invaluable to my personal development. These include both academic and professional programmes.

Having taken part in the university industrial placement scheme, I had the opportunity to work professionally for an entire year whilst studying. Aside from the excellent professional experience, friends and references this has provided me, it has proven to be a very sound start to my career as I was offered a permanent position before I even finished my degree! Now as a graduate, I know I will be going back to Brunel to do my higher degrees. Why would I want to do it anywhere else? My time at Brunel has been a truly exciting and fulfilling one. I enjoyed being a student, even a mature one."

Anna Anderson, graduated in June 2005
RAHUL PANCHAL – BEng HONOURS DEGREE IN ELECTRONIC & ELECTRICAL ENGINEERING
graduated in June 2005

“...I chose Internet Engineering at Brunel as the course matched very well with my areas of interest and the reputation of the University for engineering courses, particularly amongst employers, seemed strong. I took a placement year as part of my course, which I completed at the University itself, having a hands-on role developing various aspects of the University website. I learnt a lot through this experience and it will prove invaluable as I apply for graduate jobs. I was awarded the Sir William Siemens Medal at the beginning of my final year, which is awarded annually to one student from each of 14 engineering-led universities in the UK, in recognition of my academic record and successful placement.”

Article by Mark Hughes, current final year student

As an ambitious student, choosing the right university and deciding to devote four years of my life was the most important decision for me, just like every other student. I preferred Brunel University over other universities for its excellent reputation in engineering and very strong industry links resulting in an exceptional employment ratio. I also wanted to remain closer to Central London to make the most of my social life and would be comparatively less expensive than studying at any college in the heart of London. As the name suggests, Electronic and Electrical Engineering covered a wide range of modules from software programming to hardcore electronics. Mathematical background and very strong analytical skills made this degree ideal for me.

I am grateful that the University highly encouraged me to pursue one year industrial training. The Placement Office offered tremendous support to secure a placement in Risk Management at Kodak Limited and also offered assistance throughout my training period. It not only provided me with financial comfort, but also gave me a break from academic studies which allowed me to analyse various career paths. I found the work placement very rewarding as it exposed me to the professional environment with hands-on experience. The opportunity to get involved with real life projects at Kodak enhanced my project management skills and documentation technique to a great extent. These skills had proved to be my greatest asset for my Final Year Project.

When I returned to University to complete my final year, I was more focussed after the industrial experience. Like every student, my biggest concern was the Final Year Project as this contributes the most towards degree classification, but the project supervisors took personal interest to understand my career interests and tried to suggest projects based on my strengths and future career ambitions. I finally decided to take up a research based project in fourth generation (4G) wireless communication and I was surprised to receive tremendous support from my supervisor. The PhD research group working on similar projects were very helpful as well. Our efforts paid off and the depth of my research was beyond my and my supervisor’s expectations. My supervisor motivated me and guided me to write a professional paper, as he felt my research could help the research societies worldwide. My professional paper got accepted by International Wireless Conference and my research was presented in Denmark. As this would be published by IEEE, it opened up all opportunities worldwide. I was also offered a place to join the research group at Brunel and pursue a PhD which could have been a very exciting opportunity for students who are more research focussed.

I was more excited to enter the outer world and took up a graduate position at PricewaterhouseCoopers LLP. In addition to the academic support, I also received extensive guidance from the Careers Centre throughout the employment procedure from structuring impressive answers for the application forms to good interview techniques. In a nutshell, I would definitely recommend Brunel University to students who are after great opportunities in the academic arena, or graduate employment just like myself.
NEW BRAND FOR BRUNEL

Brunel University is recognised as one of the most respected centres of applied engineering and design in Europe. MADE IN BRUNEL is the new brand for our annual showcase for this work. It is a chance to meet the extraordinary people who have the talent, vision and skills to make concepts into real and commercially exciting products for our future. MADE IN BRUNEL 2006 will be the arena to present new ideas to companies, to inspire young students throughout the country and to celebrate the best of British entrepreneurial, commercially exciting and innovative thinking.

The showcase will take place in the prestigious Gallery Hall, Business Design Centre, Islington, from Sunday 4th June to the evening of Wednesday 7th June 2006. The projects within the showcase will have been created, developed and realised by graduating students of Brunel University. 2006 marks the 200th anniversary of Isambard Kingdom Brunel's birthday and the 40th anniversary of the award of Brunel University's Royal Charter. This double anniversary gives us the chance to celebrate the values of innovation, entrepreneurship and practicality embodied in the name Brunel and to launch our new brand.

MADE IN BRUNEL is aimed at employers, designers, manufacturers, prospective students, teachers and all those for whom innovation matters.

For more information on MADE IN BRUNEL, visit www.madeinbrunel.com

The event already has substantial financial support by some major names and with a location in Central London will be one of the University's biggest external events in this historic year. The team behind the project also see this as being a long term venture with the MADE IN BRUNEL brand being reinforced each year. The project is driven, managed and realised by a small team of dedicated students. In addition to their heavy academic workload, they have volunteered to plan, execute and deliver this collection of work to a global audience. Their passion, drive and enthusiasm characterise the spirit of MADE IN BRUNEL. The whole project was unveiled on 7th December. The Design Exhibition Centre was the venue to launch MADE IN BRUNEL with distinguished guests invited and a large number of students and staff from the university. The venue had been made ready to hold such an event with a full array of graphics, exhibition stands, presentations and even a new wall, all created by students. The address given by the project co-ordinators introduced the brand and detailed what MADE IN BRUNEL would achieve through 2006. The brand adds value to the work at Brunel and will showcase the exciting, innovative projects in engineering and design. For many it was the first they had heard of this dynamic concept and many were enthusiastic about the show's prominent venue in London and how the publicity material, containing work and contact details of the participating students, would be distributed worldwide. The launch provided a great opportunity for students, academics and University staff to speak with the project team, to understand the aims of the concept and the benefits of it.

MADE IN BRUNEL™

Mechanical Engineering graduate joins Air Products

There were a number of things that attracted me to Brunel. The main reasons being the good reputation Brunel has for engineering, the fact that it is based in London, but far enough from the hustle and bustle, and the general atmosphere of student life.

My study experience at Brunel was a mixture of emotions which included struggle, excitement, frustrations and feelings of success. Any degree requires hard work and dedication, my engineering degree was no different. The lecturers and staff in the engineering department were brilliant and sometimes went the extra mile to solve a problem and this was consistent through my years at Brunel. The engineering school welcomed feedback from students through the intermittent board meetings, extra maths seminars were given for those who needed it, workloads and deadlines were closely monitored by the department so that submissions were possible. The overall attitude was ‘ready and pleased to help’ which is exactly what I needed. Coming from a non-technical background, the most supporting words were from a lecturer in the year 2000, stating that I could do anything I put my mind to and do well in an engineering degree. The support and belief spurred me on.

As well as academic support, the social life at Brunel played an important part in my degree. A number of student focused events were organised on a regular basis as a way to relieve exam and coursework stress.

I did a year in industry placement at BMW in Oxford. This was very much an eye opener as I was now in the real world and had to put the theory I had learnt over the previous couple of years into practice. Working in industry built my character in more ways than I could have imagined. Financially it was brilliant as it allowed me to clear some debts, get a car and do some mini courses I had been interested in but couldn’t afford back then. Having the year out to work was very vital for me as it gave me that much needed break from academic work. Even though I was concerned I would forget certain principles, it did the opposite and refreshed my mind, enabling me to do my final year with full steam.

On graduation I was fortunate to get a five-year Graduate Scheme job as a Mechanical Engineer at Air Products. I very much intend on progressing in this chosen field and possibly others.

I would encourage applicants to do a Mechanical Engineering degree because it pushes you to think outside the boundaries. You feel a sense of success when solving real engineering problems and most of all you have the utmost support from the department.

Yemi Solanke, graduated in Mechanical Engineering in June 2005
Prior to coming to Brunel, I was Manager for Space Projects at Birmingham University for over eight years. During this time I had responsibility for all space instrument development, which included projects with NASA, the European and Japanese Space Agencies. The collaboration with the Japanese will soon come to fruition with the launch in August 2006 of the Japanese spacecraft called Solar-B. This satellite will carry one of the most powerful solar imaging instruments ever built, called EIS, and will study solar storms and space weather. EIS was jointly developed in the UK by Birmingham, MSSL and the Rutherford Appleton Laboratory. During my time at Birmingham, I developed a keen interest in teaching and was responsible for the development of a number of innovative group study programmes for undergraduates in the area of space mission design. These group studies provided the opportunity for students to develop detailed space mission concepts and present their ideas to staff, which included experts from the space science community.

I came to Brunel in August 2004, as a Senior Lecturer within the newly formed e2v Centre for Electronic Imaging. This joint venture between e2v Ltd, one of the world’s leading commercial suppliers of imaging sensors for space, and Brunel University provided me with the ideal opportunity to build on my research interests in imaging technology. A recent highlight for me has been the award of European Space Agency (ESA) funding for the development of a laser imaging spectrometer for the next generation of Mars Rover. This mission is part of Europe’s long-term programme, called Aurora, to explore Mars and robust diagnostic spectrometers are crucial for studying the composition of the Martian environment. The study is in collaboration with one of Europe’s leading industrial space companies, TNO (Holland), and will develop a complete engineering breadboard model to test critical areas of technology as part of a risk mitigation strategy for the mission. If the outcome of the study is successful, the development of flight hardware could begin in 18 months time with the possibility of over £1.5M of UK contribution to the programme.

The Centre also has involvement in several other space projects including Gaia, XEUS and another core Mars Rover instrument called XRD. With this growing involvement in space technology I have championed the development of a new degree programme called Space Engineering. This will be a cross disciplinary programme within the School of Engineering and Design and the first student intake will be in September 2007. A key feature of this new programme will be the linkage of specialist engineering modules with the research and expertise of the staff within the e2v centre. The hope is that students will be attracted by the challenge of quality engineering courses coupled with a space flavour. I wonder if Brunel himself ever envisaged his name associated with space exploration!

Article by Dr Chris Casteli, Electronic and Computer Engineering
Aerospace Universities Trophy

Dr John Barnes Association of Student awarded the
Mechanical Engineering

On 16 November 2005 the Dr John Barnes AAU Trophy was presented to Prof. Savvas Tassou, Head of the School of Engineering and Design, by Prof. Alan Jocelyn, Chairman of the Association of Aerospace Universities. The trophy will be in the care of the School until next year and thereafter if another Brunel student wins the trophy in 2006.

The Association of Aerospace Universities (AAU) was formed by universities in the UK offering aerospace engineering and related courses. At present its membership comprises over 25 universities and 10 industrial organisations. In the last three years the AAU has organised a project competition for graduating students, open to all university members. The competition is based on both engineering content and presentation.

This year the competition was won by Nick Baldock, a graduate from the Mechanical Engineering with Aeronautics course in the School of Engineering and Design. Nick’s project was short-listed for its content and written presentation and the second stage of the competition consisting of an oral presentation confirmed Nick as the winner. The trophy and a cheque for £250 were presented to him by Lord Sainsbury, Minister of Science and Education. In his conversation with Lord Sainsbury Nick was very complementary about the University and the quality of engineering education he had received.

Nick Baldock was an outstanding student, graduating with a 1st class Honours degree in July 2005. He also won the IMechE Frederic Barns Waldron ‘Best Student’ prize and the Brunel University ‘Best Student’ prize. His ambitious project, supervised by Dr Reza Mokhtarzadeh, was an investigation of 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. The work has formed the basis of a technical paper for submission to an international journal.

Picture of Nick Baldock with Lord Sainsbury

New MSc Engineering Design course – Student Perspective

I had just graduated in 2005 in Mechanical Technology and was looking for a course which would further strengthen my skills in engineering, especially in the rapid growth of design and product development sector. I also wanted to move to London, so I had a choice of several top rated universities, including Brunel University. I found this course the most appealing due to its variety of topics, including how to use six CAD packages which are highly sought after in the industry. I had also been job hunting upon graduation and matched job descriptions from prestigious engineering organisations with the topics taught. The course has strong links with its sponsors Niftylift Ltd and other organisations that have committed their support and provide machine-building projects up to and beyond the prototyping stage. In addition, the course had been officially opened by the president of the IMechE, which resulted in my final decision of joining.

My lectures are taken in a highly equipped design studio with facilities such as a smart board, state-of-the-art computers, and a Lego kit worth £1500. The lectures include subject areas such as Structural Analysis and FEA, Design of Mechatronic Systems and Design Experience in which I am working with a group of six students developing a new generation of Aerial Work Platforms for Niftylift Ltd.

We have weekly reviews and visits from their Design Engineers who have been guiding us throughout this project. I have been applying all the aspects of the course taught subjects in the design of this machine.

When I found difficulties with coursework I was impressed by the lecturers’ availability and quality of support. They are all specialists in their subjects and I have learnt so much in such a little period. Dr. Sivaloganathan, the Course Director, is located just next door to the design studio, and I have been very lucky to meet a man full of knowledge and wisdom. He has supported me throughout the year with advice and motivation. He is very keen to aid us in our work and had been available at all times.

The integrated subjects in this course have given me the flexibility to work in the industry of my choice. I believe that this course will equip me with the knowledge and experience in finding the career path I have chosen which is the Oil and Gas Industry. I am on my second term and already feel that I have the ability join a company and make a contribution.

I believe students and industrialists willing to boost their understanding in Design Engineering should strongly apply for this course. Brunel University is a top ranking university with excellent sports facilities, easy linked to the glorious Capital and a bus ride away from Heathrow Airport for those who enjoy weekend breaks.

Article by Bedros Mardikian, current student
Experimental Test Pilot and Fellow of the Royal Aeronautical Society joins aeronautics team

Dr Guy Gratton, a new lecturer in the School of Engineering and Design, is both a Chartered Aeronautical Engineer and a member of the prestigious Society of Experimental Test Pilots – having been involved in test flying for over 15 years from both the engineering and piloting aspects, logging 96 aircraft types as operating crew, about half of those as pilot in command. Dr Gratton, who is also a Fellow of the Royal Aeronautical Society and was the 2003 winner of the IMechE’s safety award in mechanical engineering, will be teaching on Brunel’s existing Aerospace Engineering courses, but is also here to establish new research programmes orientated around aviation safety and flight mechanics, and to develop the teaching programme for the new Aviation Engineering with Pilot Studies degree programme starting in September 2006. We hope that everyone will join Spotlight in offering a warm Brunel welcome to our new colleague.

MSc Building Services Engineering Management – Student Perspective

I came to England from Ireland in 1973, when I was sixteen years of age, to work with an Electrical Contractor as an apprentice electrician. Now at forty-eight years of age, having completed the distance learning MSc in Building Services Engineering Management at Brunel University, I was admitted to the degree of Master of Science in March 2004.

Apart from a burning desire to conclude ‘unfinished’ business from an academic standpoint I decided to embark on this course of study at Brunel University as it matched my needs both personally and professionally. Personally, because I am married with two children and the timescales allowed me to spread my study periods through the week and attend to my family commitments. And professionally, because the course content meets the needs of the industry in which I am employed, which is the Construction Industry.

I am a Building Services Manager on a new Arena and Conference Centre in Liverpool, working for a major contractor, where my role and responsibilities comprise managing the design and build of the Mechanical & Electrical Services, Fire Protection Services, Lift & Escalator Installations and Lightning Protection Installation, having an overall value of circa £25m. As a senior member of the project team, I also contribute in the overall management of the project.

Starting the MSc, I found the first few modules very tough indeed. However the assistance and guidance I received from the staff at Brunel helped me reach the necessary level of competence to work through that difficult period.

I found their assistance particularly helpful at the dissertation stage of the degree, when contact with my supervisor was constant over the twelve-month period. She made herself available throughout offering helpful advice and necessary guidance. The dissertation was an assessment of thermal comfort within hospital wards, through the correct application of ventilation.

The course of study, which I completed over a four-year period, has added a new dimension to my career and in some cases are being applied. Prior to completing the MSc, I would not have had the confidence or knowledge to develop my career in this way.

Article by Michael Touhey

Calendar of Events

- President of IMECE visit March 2006
- LTN Industry Academia Networking event (Energy and the Environment) 21 April 2006
- School of Engineering and Design Show (Business Design Centre, Islington) 4 – 7 June 2006
- First International Conference on Advances in Bridge Engineering 26 – 28 June 2006

- MSc Advanced Mechanical Engineering (Subject to Approval)
- MSc Aerospace Engineering (Subject to Approval)
- MSc Building Services Engineering with Sustainable Technologies (Subject to Approval)
- MSc Sustainable Electrical Power
- MRes in Engineering (Subject to Approval)
- MSc Distributed Systems and Computing (Subject to Approval)
- BEng / MEng Aviation Engineering / with Pilot Studies
- BSc Broadcast Media (Design and Technology) (Subject to Approval)