EduCation & the student experience continued

Financial support to students
The University can provide financial support to students in the form of bursaries, scholarships and discretionary assistance from hardship funds. In 2008/09, the University disbursed the following amounts in these kinds of financial support:*

<table>
<thead>
<tr>
<th>Bursaries (£m)</th>
<th>Scholarships (£m)</th>
<th>Hardship funds (£m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate</td>
<td>2.4</td>
<td>0.2</td>
</tr>
<tr>
<td>Postgraduate</td>
<td>0.1</td>
<td>2.0</td>
</tr>
<tr>
<td>Total</td>
<td>2.5</td>
<td>2.2</td>
</tr>
</tbody>
</table>

Total student numbers 2008/09

<table>
<thead>
<tr>
<th>Arts</th>
<th>Science</th>
<th>Engineering</th>
<th>Medical and Veterinary Sciences</th>
<th>Medical and Dentistry</th>
<th>Social Sciences and Law</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,714 (83.81%)</td>
<td>2,950 (87.16%)</td>
<td>1,584 (87.84%)</td>
<td>1,414 (81.59%)</td>
<td>1,695 (71.50%)</td>
<td>2,583 (53.88%)</td>
</tr>
<tr>
<td>Postgraduate taught</td>
<td>Postgraduate taught</td>
<td>Postgraduate taught</td>
<td>Postgraduate taught</td>
<td>Postgraduate taught</td>
<td>Postgraduate taught</td>
</tr>
<tr>
<td>2,444 (89.25%)</td>
<td>2,404 (87.90%)</td>
<td>424 (19.18%)</td>
<td>62 (3.58%)</td>
<td>468 (20.18%)</td>
<td>1,501 (51.19%)</td>
</tr>
<tr>
<td>Total</td>
<td>Total</td>
<td>Total</td>
<td>Total</td>
<td>Total</td>
<td>Total</td>
</tr>
<tr>
<td>4,998 (90.37%)</td>
<td>5,374 (96.34%)</td>
<td>2,008 (90.68%)</td>
<td>257 (14.83%)</td>
<td>193 (9.33%)</td>
<td>4,084 (96.68%)</td>
</tr>
</tbody>
</table>

Total student numbers 2007/08

<table>
<thead>
<tr>
<th>Arts</th>
<th>Science</th>
<th>Engineering</th>
<th>Medical and Veterinary Sciences</th>
<th>Medical and Dentistry</th>
<th>Social Sciences and Law</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,644 (94.28%)</td>
<td>2,876 (93.95%)</td>
<td>1,555 (89.61%)</td>
<td>1,473 (83.65%)</td>
<td>1,613 (82.05%)</td>
<td>2,355 (50.46%)</td>
</tr>
<tr>
<td>Postgraduate taught</td>
<td>Postgraduate taught</td>
<td>Postgraduate taught</td>
<td>Postgraduate taught</td>
<td>Postgraduate taught</td>
<td>Postgraduate taught</td>
</tr>
<tr>
<td>271 (10.44%)</td>
<td>78 (2.20%)</td>
<td>384 (17.10%)</td>
<td>61 (3.43%)</td>
<td>524 (22.10%)</td>
<td>1,729 (37.05%)</td>
</tr>
<tr>
<td>Total</td>
<td>Total</td>
<td>Total</td>
<td>Total</td>
<td>Total</td>
<td>Total</td>
</tr>
<tr>
<td>3,015 (92.78%)</td>
<td>3,553 (93.03%)</td>
<td>2,254 (99.57%)</td>
<td>207 (12.89%)</td>
<td>2,038 (99.20%)</td>
<td>4,384 (91.53%)</td>
</tr>
</tbody>
</table>

Number of degrees awarded

<table>
<thead>
<tr>
<th>Undergraduate</th>
<th>Postgraduate taught</th>
<th>Postgraduate research</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,411</td>
<td>3,339</td>
<td>408</td>
</tr>
</tbody>
</table>

Graduate destinations
Every year, new graduates are asked to complete a questionnaire concerning their employment or study status. The resulting figures enable the University to build a year-by-year picture of the destinations of its graduates.

As might be expected, the most significant labour market trend during 2008/09 was the economic downturn and its impact on students and graduates – and on the level of employability across the country. The number of vacancies registered with the University’s Careers Service fell by an unprecedented 33 per cent compared with the previous year. In response to these conditions, and to student concern, the Careers Service implemented a series of measures:

- running a programme of ‘Job hunting in a recession’ workshops for current students;
- staying open throughout the summer to meet the increased demand from recent graduates;
- enhancing provision for Graduate bursaries, including more access to online vacancies;
- running short courses for unemployed graduates and professionals in the region through JobCentre Plus;
- offering a telephone helpline for graduates.

At the same time, the University approved a new Employability Strategy, reorganising the Careers Service to offer broader support to academic departments, introducing a new Graduate Placements Award recognising extra-curricular achievement by students and establishing a new, accredited, commercial-awareness module.

Graduate destinations 2008

<table>
<thead>
<tr>
<th>Full-time paid work</th>
<th>Part-time paid work</th>
<th>Voluntary/Unpaid work</th>
<th>Work and further study</th>
<th>Further study</th>
<th>Assumed to be unemployed</th>
<th>Not available for employment</th>
<th>Other</th>
<th>Explict refusal</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,913 (94.90%)</td>
<td>510 (1.72%)</td>
<td>1,360 (4.54%)</td>
<td>195 (6.29%)</td>
<td>308 (10.18%)</td>
<td>240 (7.77%)</td>
<td>270 (8.67%)</td>
<td>63</td>
<td>144</td>
</tr>
</tbody>
</table>

Graduate destinations 2007

<table>
<thead>
<tr>
<th>Full-time paid work</th>
<th>Part-time paid work</th>
<th>Voluntary/Unpaid work</th>
<th>Work and further study</th>
<th>Further study</th>
<th>Assumed to be unemployed</th>
<th>Not available for employment</th>
<th>Other</th>
<th>Explict refusal</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,950 (94.39%)</td>
<td>534 (1.80%)</td>
<td>1,393 (4.86%)</td>
<td>196 (6.26%)</td>
<td>308 (10.28%)</td>
<td>240 (7.77%)</td>
<td>270 (8.67%)</td>
<td>63</td>
<td>144</td>
</tr>
</tbody>
</table>

Research

Research at Bristol includes much that is of public benefit. The University’s activity is engaged in the fullest sense: engaged with urgent issues such as disease, climate change, energy, social justice, natural resources and the welfare of the individual; engaged with the cultural life and history of nations and communities across the world; engaged with the future of technology and science and the development of innovations in medicine, nanotechnology, quantum cryptography, composite materials, stem-cell engineering and other emerging fields.

The University’s priorities in this area are to:

- be recognised globally for the quality of our research;
- create a positive research environment and infrastructure that will attract and retain the highest quality researchers and postgraduate students worldwide;
- develop our portfolio of flagship and high-impact research, working across and between disciplines to answer important societal questions and contribute to the social, political, environmental and economic well-being of the region, the UK and the wider world;
- seek, manage and provide professional support for strategic partnerships and alliances with key national and international partners – business and industry, the public sector, user communities, sponsors of research and policy-makers;
- play a leading intellectual role in enterprises, knowledge exchange and economic and social impact agendas, and continue to be a beacon of good practice and leader of innovation in the city and region;
- develop a sustainable portfolio of research informed by evidence-based leadership, management and administration and supported by high standards of governance.

Strong showing for Bristol in Research Assessment Exercise

The results of the 2008 Research Assessment Exercise (RAE), an independent assessment of the quality of research in UK universities, confirmed the University of Bristol as a world leader in research. The RAE, a rigorous exercise carried out on behalf of the higher education funding bodies, helped the Higher Education Funding Council for England to determine how more than £1.5 billion in research funding would be allocated annually. Over 90 per cent of eligible staff at Bristol were included in the University’s RAE submission – thought to be one of the highest percentages in the sector. Over 61 per cent of the research work assessed in 48 research fields at Bristol was awarded either the top 4* rating, defined as ‘world leading’, or the 3* rating, classed as ‘internationally excellent’. The quality of Bristol’s research in geography emerged as first equal with Cambridge in the UK. Epidemiology and public health, health sciences research, chemistry, mathematics, drama, mechanical engineering, economics, accounting and finance, aeronautical engineering and sports-related studies are among other research areas in which the University achieved particular distinction.

Graduate students' feedback

In response to the outcomes of the 2008 Research Assessment Exercise, Bristol was included in the University’s RAE submission – thought to be one of the highest percentages in the sector. Over 61 per cent of the research work assessed in 48 research fields at Bristol was awarded either the top 4* rating, defined as ‘world leading’, or the 3* rating, classed as ‘internationally excellent’. The quality of Bristol’s research in geography emerged as first equal with Cambridge in the UK. Epidemiology and public health, health sciences research, chemistry, mathematics, drama, mechanical engineering, economics, accounting and finance, aeronautical engineering and sports-related studies are among other research areas in which the University achieved particular distinction.

Found: world’s earliest nuclear family

An international team including Dr Alistair Pike, Head of Archaeology at Bristol, and PhD student Hylke de Jong, has uncovered the earliest evidence of a nuclear family, dating back to the Stone Age. A 4,600-year-old grave excavated at Eulau in Germany contained a female, a male and two children, buried facing each other – an unusual practice in Neolithic culture.
RESEARCH CONTINUED

Using state-of-the-art genetics and isotope techniques, the researchers established that the group consisted of a mother, father and their two sons. This provides the oldest molecular genetic evidence in the world of a nuclear family and fills in an important gap in our knowledge of human social evolution.

Quantum cryptography sets new standard in ‘unbreakable’ encryption

A Bristol team led by John Rarity, Professor of Optical Communication Systems in the Department of Electrical and Electronic Engineering, is one of the partners in a Europe-wide project to establish a secure communications network using quantum cryptography. The network was demonstrated for the first time in October 2008 in Vienna. The encryption process uses quantum cryptography to generate and distribute ‘keys’ that encrypt confidential communications with the highest level of security ever achieved. Potential users of this network include government agencies, financial institutions or companies with distributed subsidiaries.

Work transformed: new study earns plaudits

An acclaimed new book by Kevin Doogan, Jean Monnet Professor in the School for Interdisciplinary Work, has for some time been a major component of the University’s strategy, with many instances of collaboration across disciplines that have already yielded concrete, highly visible outcomes. Here are just a couple of examples.

Bristol chefs make liquid protein

Chemists at Bristol have created the first known example of a liquid protein, opening up the possibility of a number of medical and industrial applications.

Professor Stephen Mann and Dr Adam O’Regan, along with Helen Melman Cohen of the Max Planck Institute for Colloid and Interface Research in Germany, have created a liquid form of the non-storage protein, fettin, by modifying its surface. The resulting highly concentrated protein could pave the way for a new generation of protein-based pharmacologicals, sensors, coolants and lubricants.

Bristol Neuroscience

Bristol Neuroscience (BN) is a focal point for the University’s neuroscience community. It enables neuroscientists working at separate sites to make full use of the expertise and facilities within the University and its partner hospitals and to create opportunities for collaboration across disciplines. BN’s co-ordinator, Dr Anne Cooke, also organises public lectures and other events.

Among many illustrations of the fertile environment fostered by BN is a recent discovery by three scientists from different departments that suggests a new approach to the treatment of multiple sclerosis (MS). Professor David Wynnick in the Henry Wellcome Laboratories for Integrative Neuroscience and Endocrinology, who works on the function of a neuropeptide called galanin in the relief of neuropathic pain, wanted to investigate whether galanin might play a role in the treatment of MS. A BN symposium provided the opportunity to discuss his ideas and propose a collaboration with David Wrath, Professor of Experimental Pathology in the Department of Cellular and Molecular Medicine, and Neil Scolding, Burden Professor of Clinical Neurosciences in Clinical Science at North
Bristol. Their tests showed that mice bred to produce high levels of galanin were completely resistant to an MS-like disease called experimental autoimmune encephalomyelitis. This and other results provide powerful insights into how MS might be treated in humans.

AN EYE TO BRITAIN’S FUTURE

The University recognises its responsibility to help improve the future of the UK population – our health, our infrastructures, our preparedness for new challenges. In December 2008, as part of a £250-million initiative to create 44 training centres across the UK, the Engineering and Physical Sciences Research Council announced funding of over £24 million for four new centres at Bristol that will train the scientists and engineers needed for Britain’s future:

The Advanced Composites Centre for Innovation and Science (based in the Department of Aerospace Engineering)

The Doctoral Training Centre in Functional Nanomaterials (based in the new Centre for Nanoscience and Quantum Information)

The Holistic Doctoral Training Centre for Chemical Synthesis (based in the School of Chemistry)

The Industrial Doctorate Centre in Systems (based in the Faculty of Engineering)

Supporting research

Staff in Research and Enterprise Development (RED) work with University colleagues, students and external partners to support world-class research and enterprise, and to develop a sustainable portfolio of activities that strengthen and underpin the University’s research base. The RED team provides training and advice on entrepreneurship, knowledge transfer and the exploitation of research and expertise. RED also holds the annual New Enterprise Competition, which is judged and sponsored by local government and national businesses.

SETsquared

RED manages the University’s SETsquared Business Acceleration Centre, part of the SETsquared Partnership, which also includes the universities of Bath, Southampton and Surrey and is now the UK’s largest enterprise collective, with some 6,500 researchers. The Centre draws on in-house expertise and a wide network of seasoned entrepreneurs, investment advisers, professional services firms and academics to provide support for emerging technology companies, accelerate growth and pre-empt the common pitfalls of technology businesses. The Centre was named ‘Established Business Incubator of the Year 2008’ by the UKBI, the professional body for the business incubation industry.

It was reported late in 2008 that 12 of the companies in the University’s SETsquared Business Incubator had between them raised over £23 million in the Centre’s busiest year since its inception in 2002. The Centre’s 37 early-stage, high-tech, high-growth businesses together increased turnover by 20 per cent to over £6 million and increased headcount by 66 per cent to 175 people.
Above: A Panda Club outing to a local ice rink

... provides for students' health, well-being and personal development;... student volunteers working in support of community projects. A Volunteer Development Co-ordinator, initially funded by the Higher Education Funding Council for England through its Teaching Quality and Enhancement Fund, organises and oversees training and development programmes for the students involved. SCA ran 33 projects between August 2008 and July 2009. Each project is run by one or two student volunteer co-ordinators; regular volunteer numbers vary but 2008/09 saw a total of 2,365 volunteers working on SCA projects. The 29 training programmes for volunteers were attended by some 1,080 people.

Over €2 million in the form of a five-year European Research Council Advanced Grant to Jeremy Henley, Professor of Molecular Neuroscience in the Department of Anatomy, for a study of brain proteins entitled 'Mechanisms and consequences of synaptic SUMOylation in health and disease'.

£1.2 million over three years from the Biotechnology and Biological Sciences Research Council to David Murphy, Professor of Experimental Medicine in the Henry Wellcome Laboratories for Integrative Neuroscience and Endocrinology, and Professor Julian Paton in the Department of Physiology and Pharmacology, for studies of gene expression and hypothalamic plasticity in response to dehydration. An E.C grant of nearly £11 million to an international consortium, including Paolo Maderedu, Professor of Experimental Cardiovascular Medicine at the Bristol Heart Institute, that seeks to understand the molecular mechanisms that impair wound-healing and organ repair in ageing or ill patients. The ultimate aim is to find ways of enhancing the body's healing capacity and reducing chronic inflammation.

A European Research Council Advanced Grant of €2.4 million over five years to Professor Steve Sparks in the Department of Earth Sciences for a study of volcanoes and their environmental and social impact.

An EC grant of nearly £1.1 million to the Faculty of Medical and Veterinary Sciences for the training of postgraduates.

A European Research Council Advanced Grant of €1 million from the European Space Agency to a team including members of the Department of Aerospace Engineering working on the design of a reusable space plane, the SKYLON, that can take off from a conventional aircraft runway, carry over 12 tonnes into orbit and return to land on the same runway.

£0.6 million from the Economic and Social Research Council to Dr Maurizio Mannelli (Centre for East Asian Studies), Professor Robert Bickers (Department of Historical Studies) and Professor Nikhi Cooper (a former Bristol academic now at Swansea University) for a three-year research project on colonial Chinese history, focusing on the northern Chinese port city of Tianjin.

£1.7 million from the Biotechnology and Biological Sciences Research Council to a team including Keith Edwards, Professor of Cereal Functional Genomics and Dr Gary Barker, Research Fellow in the School of Biological Sciences (along with researchers at the University of Liverpool and the John Innes Centre) to carry out an extensive genetic analysis of the wheat genome, with a view to increasing disease resistance, quality and yield. Funding of €1.0 million from the energy company E.ON to Dr Neil Fox from the School of Chemistry and the Department of Physics to exploit solar heat to produce electricity using devices called thermionic energy converters. Dr Fox is developing special electrodes for these converters using nanoparticles of industrial diamond powder, which is low-cost and readily available.

The University’s priorities in this area are to:

- ensure a fair and transparent system of student representation that provides students with the opportunity to shape their educational and extra-curricular experience;
- support a vibrant, active and democratic Students’ Union;
- ensure the provision of learning and skills opportunities that enhance students’ future employability;
- offer a rewarding extra-curricular experience that provides for students’ health, well-being and personal development;
- provide advice and support for students’ personal welfare and ensure effective integration into the University and local community.

The University is proud of its students and works tirelessly to provide an environment, a set of support structures and a range of opportunities that will enable students to excel in every aspect of their lives at Bristol and to make their university career a genuinely transformative experience.

GRANTS

The University attracted a total of £102 million in grants during 2008/09. This included the following:

£1.5 million in Doctoral Training Grants from the Biotechnology and Biological Sciences Research Council to the Faculty of Medical and Veterinary Sciences for the training of postgraduates.

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