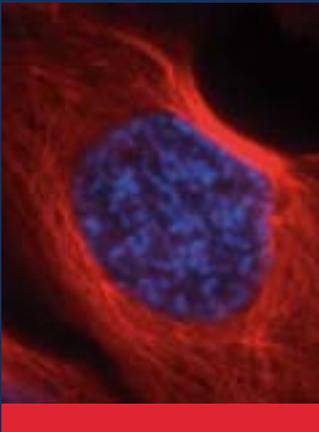


*Teaching  
that  
inspires...*



*research that  
changes the  
world*



**University of  
Leicester**

**ANNUAL REPORT  
2003 - 2004**

# The University of Leicester

## *Mission*

The University of Leicester is committed to delivering high quality undergraduate, postgraduate and professional education and to creating research that is of international significance.

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## *History & Environment*

The University of Leicester is a civic University. Founded in 1921 and receiving its Royal Charter in 1957, Leicester has a broad academic base. This breadth is characteristic of the civic universities of Britain's major cities. The City of Leicester is vibrant, cosmopolitan, welcoming and culturally diverse – qualities that the University reflects.

## *A Special University*

In our mission, high quality research and teaching go hand in hand. Our expertise in postgraduate education is particularly respected. Our proud history and our unique environment combine with these features to make Leicester a distinctive university and a special place to be a student.

## *Our Beliefs & Values*

We are passionate about our work, our teaching and our research. We believe that higher education is a power for good and makes a significant economic, intellectual and cultural contribution to the world.

We believe in the synergy between teaching and research. We are committed to producing high quality, significant research. This informs our teaching.

We believe that academic potential is the only legitimate means of differentiating between candidates when offering places.

We believe that a diverse student and staff body makes the University stronger.

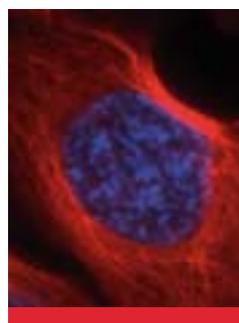
We believe that choosing to study a higher education course requires courage, commitment and effort. We aim to acknowledge this by providing a first rate teaching and learning experience for all our students.

We are an international university that is committed to the region. We believe we best serve our region by sharing with it the benefits of our internationally significant work.

We believe that we improve and grow stronger by listening and learning from those who use our services.



THE QUEEN'S  
ANNIVERSARY PRIZES  
1994 & 2002



*Teaching that inspires...  
research that changes the world*

## *Key Facts*

The University of Leicester is a leading UK university with a proud past and an exciting future.

- ◆ Our strengths stretch across our six faculties: Science, Social Sciences, Arts, Medicine & Biological Sciences, Law and Education.
- ◆ It was here that DNA Genetic Fingerprinting was invented by Professor Sir Alec Jeffreys. The department, in which Sir Alec still works, is the UK's only Genetics department with the top 5\* research rating.
- ◆ We are home to one of Britain's largest schools of historical studies. Our work on English Local History is particularly famous.
- ◆ We are known internationally for our space research and exploration. Currently we are involved in a range of space activities including NASA's Swift mission and the Lobster telescope.
- ◆ There are over 19,000 students registered at Leicester of whom 8,000 are full-time undergraduates. We are the UK's largest provider of distance learning education after the Open University.
- ◆ Over 3,000 people are employed by the University making us one of the city's largest employers.
- ◆ The University of Leicester is one of a small number of universities to have won the Queen's Anniversary Prize for Higher Education on more than one occasion (in 1994 and 2002). These highly prestigious prizes are awarded for excellence in higher and further education.
- ◆ Our annual turnover is £161m. Our research income places us amongst the top 20 UK research universities [*Guardian* 2004].
- ◆ Our teaching is of high quality. Fourteen consecutive assessments by the Quality Assurance Agency, stretching back to March 1998, returned scores of "excellent" (ie a score of at least 22 out of 24). Only one other English university can match this consistent string of results.

# Progress in times of change



The academic year under review has witnessed major change in higher education. There were very few weeks when universities were not the subject of lead stories in the national news, mainly as a consequence of the debate about fees. However, there was also much more, including the recommendations of the Schwartz report on student admissions and whether we should move to a post-qualifying admissions system. The Tomlinson Report on 14-19 Education also has many implications for higher education and requires careful consideration so that good links continue to be made between schools, colleges and universities.

Alongside these policy discussions the major role that universities and their staff perform continues on a daily basis. In Leicester we were delighted to see growth in our undergraduate admissions with more students expressing a preference for our University. Indeed, we witnessed the second largest percentage rise in undergraduate applications in the English Midlands. In teaching, the University continues to excel. Visits conducted by the Quality Assurance Agency highlight ways in which staff deliver high quality teaching which effectively promotes and develops students' learning. We were especially pleased that Dr Derek Raine in Physics was awarded a National Teaching Fellowship for which he deserves congratulations. In addition, six colleagues from different parts of the University were also given a University award at our summer degree ceremonies as a result of being selected in a University-wide teaching award scheme.

In research, we continue to see major developments in terms of grant and contract income. It was particularly pleasing to see that data produced by the University of Cambridge placed Leicester among the top twenty research intensive universities in the UK. This is a result of much hard work on the part of all staff. However, research quality is shown not only by income but also by publications, by links with business and by

collaborative links nationally and internationally, as illustrated in this report.

A major group established by the University is the Colleges-University of Leicester Network (CULN) that links the University with two higher education institutions (Bishop Grosseteste and Newman Colleges) and twenty Further Education and Sixth Form Colleges which all work together on a range of projects. Our alliance with Bishop Grosseteste and Newman has resulted in many new initiatives, including a science centre for teachers which is part of a major national network.

All these developments demand changes in our estate. There have been major building projects associated with Space Research and Biomedical Research. This will continue as we develop our University Library and build new residential facilities to develop our student village. All these developments require additional resources, which we are raising through our systematic fundraising campaign that began in January 2004 with the object of supporting major teaching and research initiatives.

All of these activities require hard work and dedication by all our staff. Many of their achievements are recorded in the pages that follow and demonstrate that the University continues to flourish as a consequence of the vision and imagination of my colleagues who deserve our thanks.

A handwritten signature in blue ink that reads "Robert Burgess". The signature is fluid and cursive.

Professor Robert Burgess  
Vice-Chancellor



Building for the future: The Henry Wellcome building is a part of the University's £300m development plan.

# Teaching that inspires

At Leicester teaching and research go hand in hand. This synergy where students are taught by academics at the cutting edge of their fields provides for an exciting and inspiring intellectual experience.

For example, Dr Derek Raine, Senior Lecturer at the University of Leicester, was described as “probably the most innovative physics educator in the UK at the moment” when he received the award of the prestigious National Teaching Fellowship. At Leicester, students encounter teaching at its best.

Dr Raine’s impact on teaching and learning at the University has extended across his own department, to the rest of the University and beyond. Dr Raine was praised in particular for the LeAP project which involves three other universities and takes a problem-based learning approach to Physics and Astronomy teaching.

The University also has its own awards that recognise excellence in teaching and learning amongst its staff. Teaching Fellowships are awarded to those who have achieved distinction, and awards this year were made to:

Mr Patrick Baughan, Centre for Labour Market Studies, in recognition of the sustained contribution he has made, through his teaching and organisational skills, to the development of a successful portfolio of distance learning programmes.

Dr Primrose Freestone, Department of Infection, Immunity & Inflammation, in recognition of her innovative and committed approach to the teaching of industrial microbiology, shaped by her own research.

Dr Roger Merry, School of Education, in recognition of his inspirational teaching on the Postgraduate Certificate of Education and other programmes in the School of Education.

Mr Richard Sandell and Ms Suzanne MacLeod, Department of Museum Studies (Joint Award), in recognition of the success and national significance of the Diversity Project undertaken in conjunction

with the Museums Association and a range of other stakeholders.

Professor Mike Sutcliffe, Departments of Biochemistry and Chemistry, in recognition of his outstanding contribution to the development of new and alternative teaching methods and approaches.



In 2003/4 Leicester Management Centre again received accreditation from the Association of MBAs (AMBA). AMBA accreditation is the key badge of quality for management and business schools.

Leicester’s reputation for management education is well known and stronger since the arrival in 2003/4 of a team of 12 international scholars described as “impressive” by AMBA. This multi-million pound investment in the Centre is designed to attract the brightest and best staff and students to further strengthen Leicester’s reputation in this area.

AMBA commended Leicester’s Management Centre. Singled out for particular praise were the support and dedicated library resource for distance learning students. Nearly 50 full-time academic staff are projected to be part of the Centre by the end of 2005.

Students professed a high level of satisfaction with the Leicester MBA. On the distance learning version of the degree, video conferencing and web board facilities had proved “valuable and effective” as a means of communication between students and staff.



Leicester has long been a popular choice for undergraduate applicants but in 2003/4 the University enjoyed the largest increase in applications in the region. At a time when many Chemistry departments

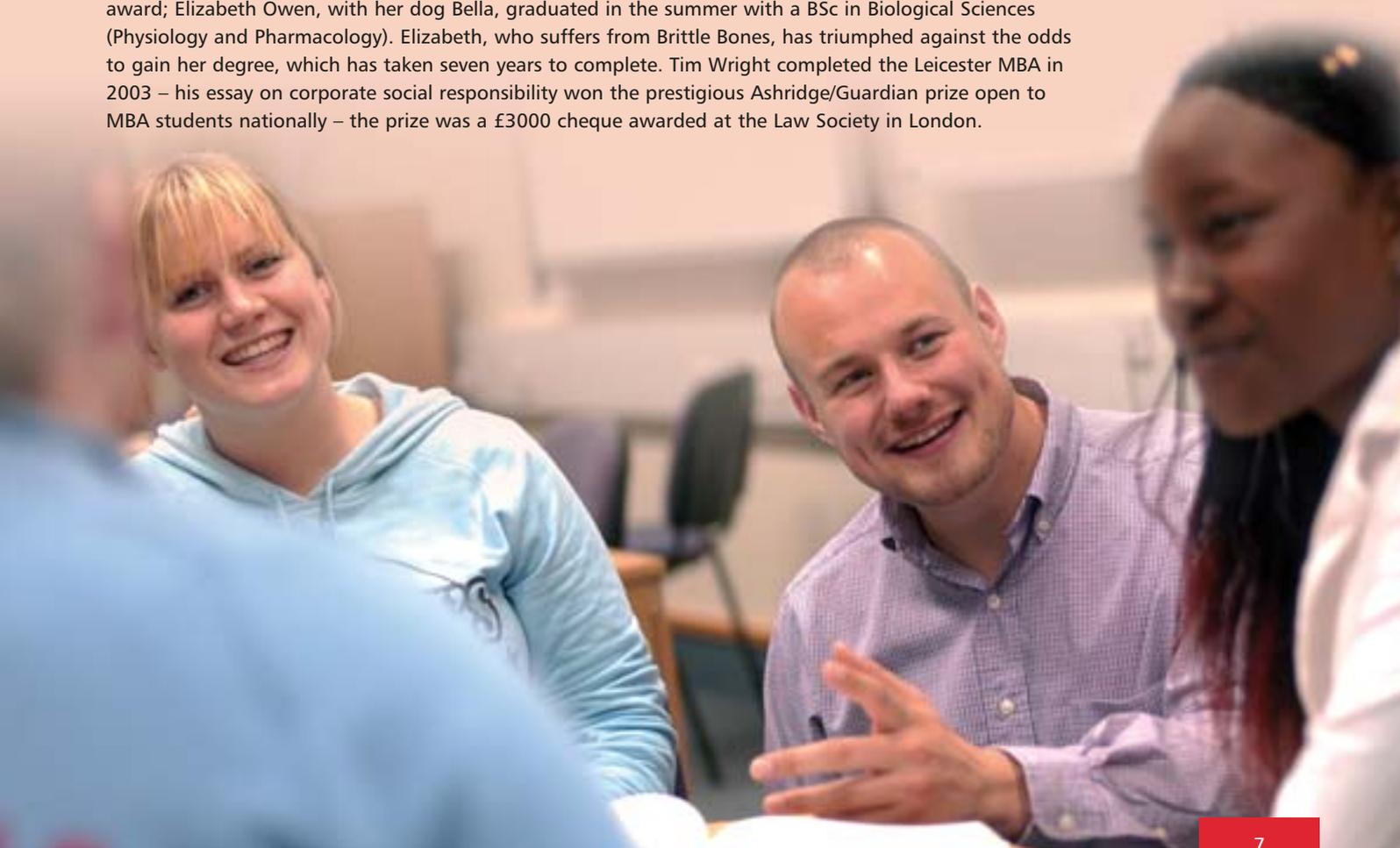
are encountering difficulties with applications, demand for the Leicester department rose by 45%. Other large increases were seen in English (56%), Geology (16%) and Politics (31%).

One reason for the increases are the partnerships forged between departments and local schools. In Chemistry, for example, activities run for students as part of the Colleges-University of Leicester Network, workshops for teachers, web resources for schools, masterclasses and a Chemistry roadshow have all boosted interest in the subject.

Demand for places has pushed up the entrance qualifications at Leicester. Students entered in 2004 with an average score of 371 tariff points, 10% higher than in 2002.



Images (clockwise from top right): Dr Derek Raine, recipient of a prestigious National Teaching Fellowship award; Elizabeth Owen, with her dog Bella, graduated in the summer with a BSc in Biological Sciences (Physiology and Pharmacology). Elizabeth, who suffers from Brittle Bones, has triumphed against the odds to gain her degree, which has taken seven years to complete. Tim Wright completed the Leicester MBA in 2003 – his essay on corporate social responsibility won the prestigious Ashridge/Guardian prize open to MBA students nationally – the prize was a £3000 cheque awarded at the Law Society in London.



# Research that changes the world

Leicester is committed to producing research that is internationally significant. It is this that provides the bedrock for the educational experience offered to students who are taught by academics at the cutting edge of their disciplines with the intellectual excitement this creates.

Our most famous achievements are the invention of DNA fingerprinting and pioneering space research and exploration, but our strengths stretch across our six Faculties.

The size of the University's income for research saw it placed amongst the UK's top 20 research intensive universities by *The Guardian*, based on data produced by the University of Cambridge, at the end of the 2003/4 academic year.

Innovative thinking at Leicester has led to the development of a new 'air fingerprinting' technique which can detect, in less than a minute, the 'ingredients' of air including that of an individual's breath or perfume.

This technique revolutionises the speed and accuracy by which air composition can be tested and has potential applications in the environmental, industrial and medical worlds.

The breakthrough has been made by scientists in the University's Department of Chemistry. Their technique offers highly sensitive and speedier processes than rival methods of air testing.

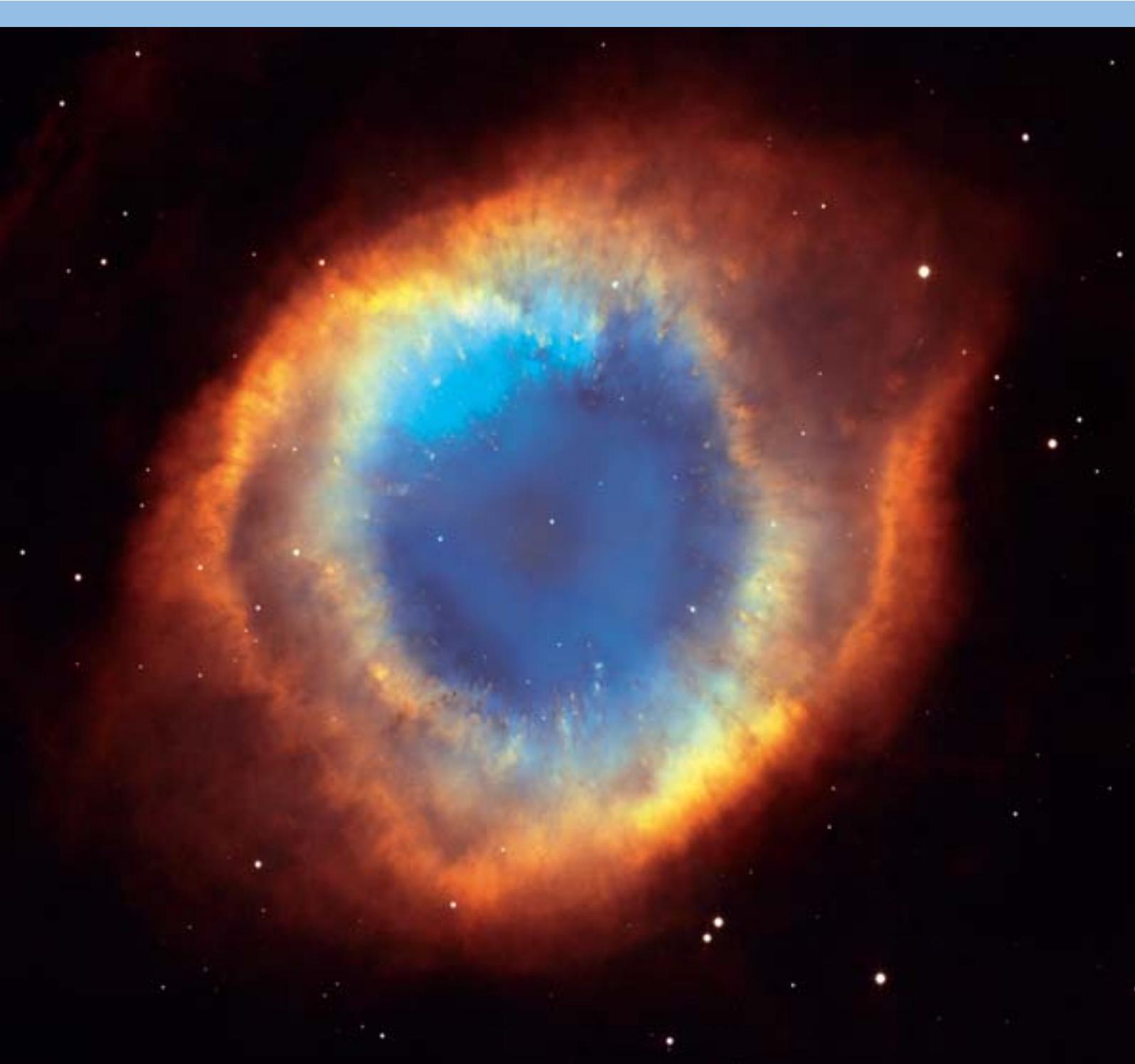
Scientists also believe the new development may have applications in the forensic field. For example, decomposing bodies emit a variety of volatile organic compounds which may be a tell-tale sign that a body lies buried beneath a patch of ground.

Thanks also to techniques involving Leicester research, it

is now possible to date the time of death in skeletalised remains more accurately by a relatively inexpensive and accurate bone test. The Forensic Pathology Unit developed the technique for dating skeletons in collaboration with The University of Reading.

An internationally renowned expert at the University of Leicester has been actively researching vaccines to combat avian flu, often called 'bird flu', which it is feared could trigger a pandemic as lethal as those of 1918, 1957 and 1968. Karl Nicholson, Professor of Infectious Diseases at the University of Leicester and the Leicester Royal Infirmary, has been responding to the urgent need to evaluate different vaccine formulations to identify the best way to protect people from strains of bird flu that have jumped from birds into man.





Images (clockwise from left)

Airprinting: Dr Monks and Dr Ellis are engaged in innovative research to detect, in less than a minute, the 'ingredients' of air including that of an individual's breath or perfume.

Cosmic fingerprinting: The nebula pictured is gas and dust thrown off from a star called a white dwarf. Professor Martin Barstow delivered his inaugural lecture on *Cosmic Fingerprinting: The Key to Understanding the Universe*, and it is this kind of star that space scientists at Leicester measure, using a method called spectroscopy, to reveal the secrets of the universe.

Earprinting: Every ear is unique and this year Leicester scientists led the development of techniques to identify individuals by their ears.

# Strength in research

2003/4 saw strong growth in the University's income from research grants. The University secured £41m in funding (in 2002/3 the figure was £35m). Grants were distributed across the University's six faculties.

Scientists have been examining everyday items such as brown rice, turmeric, red wine and tea in the battle against cancer. Researchers in the Leicester Department of Cancer Studies and Molecular Medicine have most recently developed the substance triclin from brown rice, and laboratory tests indicate that this has great potential to have a preventative effect against human cancers. This work has been carried out with support from the national Cancer Institute in the United States.

The Leicester researchers first undertook research with curcumin, an ingredient of turmeric, carrying out a variety of early trials for colon cancer. Encouraging results with curcumin led them to develop their work in the field of chemoprevention and they have examined an agent called resveratrol, derived from red berries and present in red wine. This is now being explored in a variety of laboratory and clinical studies.

TV soaps are setting a bad example in the portrayal of drinking warned Alcohol Concern following research by the University of Leicester.

Mass communications expert Anders Hansen found that alcohol drinking scenes appear every eight minutes in prime time television soaps. The research also reveals that drinking scenes in soaps have almost doubled over the last 20 years – from 3.9 per hour in 1983 to 7 per hour in 2003. The research shows that popular television programmes are guilty of portrayals that make the frequent and regular consumption of alcohol appear normal, expected and unproblematic, without adequately balancing that view with storylines showing the more problematic side of alcohol. While drinking is invariably shown as part of 'having a good time', the realities of excessive alcohol consumption are rarely seen on our screens.

A project carried out at the University provided an insight into pathways for learning and was hailed by Estelle Morris, Minister of State for the Arts, as

"remarkable research [which] highlights the excellent work of Britain's regional museums."

The Leicester research report, entitled "What did you learn at the museum today?" shows how extra funding of £10m invested in educational programmes at regional museums and galleries has successfully increased school visits which are seen as inspiring by both teachers and pupils.

This pioneering work by the Research Centre for Museums and Galleries (RCMG) in the University Department of Museum Studies, looked at how children and teachers responded to educational programmes in 36 museums in the North East, the West Midlands and the South West of England.

This is the first national study of the impact of museum education, and involved 1,000 teachers and over 20,000 pupils in three regions of England.

The Centre for Mathematical Modelling has developed a new £340,000 high performance computing cluster comprising 160 central processing units (CPUs) linked by ultrafast switches. Using modern software, the CPUs can work together to take on large scale computing tasks which would otherwise be unthinkable.

The computer is available on a shared-use basis to support funded research projects throughout the sciences and will be used for a wide range of multidisciplinary projects, including the simulation of materials and processes (engineering), study of parallel algorithms for ordinary and partial differential equations (mathematics), quantum many body problems (physics), and biomolecular simulation (chemistry/biochemistry).

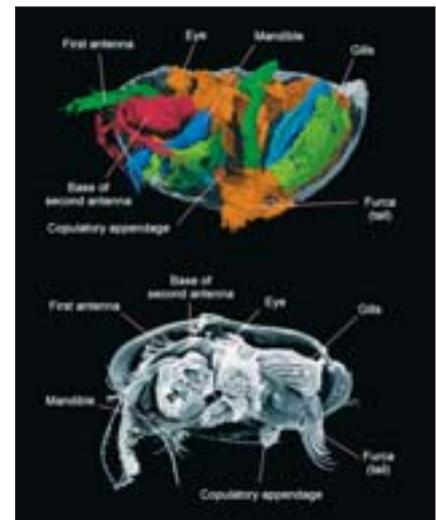
Leicester's strength in Economics (the department is rated 5 for its research and scored a maximum of 24 for its teaching) has brought expansion in its wake, increasing numbers of both high quality staff and students.

As part of this growth, a prestigious US economist widely regarded as one of the architects of modern panel data econometrics has been appointed to a part-time Chair in the Department of Economics. Professor

Images (left to right)

Digging the dirt on the past: University archaeologists have found the earliest remains ever to be uncovered in the county – and the gruesome end they encountered. Dr Patrick Clay is pictured with remains from the historic find.

Fossil find: Professor David Siveter of the Department of Geology at the University of Leicester, together with colleagues from the Universities of Oxford and Yale, discovered a fossil water-flea-like relative of the prawns and lobsters – called an ostracod – 425 million years old, complete with its soft anatomy preserved in three dimensions. The sexual organs are preserved, which allows identification of the specimen as a male. It is believed to be the oldest example of a male sexual organ ever preserved.



Badi H Baltagi, a chaired professor at Texas A&M University, is known across the world for his publications, including articles in the most prestigious Econometrics journals. One of his books, *Econometric Analysis of Panel Data*, is the standard text in its field worldwide and a major reference for researchers doing empirical work in longitudinal data.

A unique national resource that will help to keep alive the 'cultural memory' of the British South Asian community was launched by Lord Bhikhu Parekh, Chair of the Commission on the Future of Multi-Ethnic Britain.

The University of Leicester is the new host for the South Asian Diaspora Literature and Arts Archive (SALIDAA), an interactive collection of material by artists and writers from the South Asian community in Britain, many of whom have strong connections with Leicester.

The launch, 'Archives and Cultural Memory', in November, heralded the start of a programme of activities designed to forge links between artists, audiences and academics to create a 'living archive' to stimulate discussion, reflection and creativity.

Leicester research also demonstrated that attending complementary (also known as supplementary) schools to learn 'mother tongue' languages can add value to

other educational contexts. Researchers in Education found that pupils who spent time in schools learning their mother tongue also picked up valuable skills that applied in mainstream schools – study skills, respect for teachers, discipline, politeness and dealing with exams.

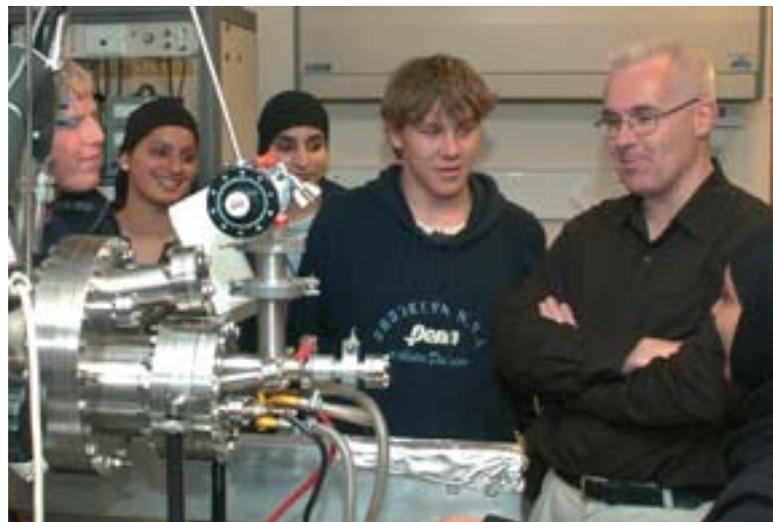
The study into complementary schools, funded by the Economic and Social Research Council, revealed other benefits for pupils including skilful and spontaneous use of two languages, translation skills, different ways of expressing words, handwriting improvement and community cohesion.

The Law Department continued to publish substantial numbers of high quality books, articles and research reports in a wide variety of areas. Notable publications were a fifth edition of Professor Malcolm Shaw's authoritative textbook, *International Law*, which is a standard reference work for both practitioners and students in the area. A strong theme of the Department's work has been that of human rights, covering issues relating to refugees and migrants, discrimination and the anti-terrorism provisions. During this same period, Dr Mandy Burton has been doing substantial work for the Crown Prosecution Service on the handling of domestic violence cases.

# Stronger by working in partnership

The University is stronger through working in partnership. 2003/4 was an important year seeing the development of a range of partnerships which underpin the University's core objectives of delivering high quality teaching and research.

2003/4 saw the launch of the UK Healthcare Education Partnership (UKHEP). UKHEP is a joint online venture between the University of Leicester, the Royal College of Nursing, City University and the University of Ulster. Leicester's extensive experience as a provider of distance learning education brings expertise to the partnership. UKHEP has worked together to develop a range of innovative and patient-centred online learning modules for post-registration healthcare professionals. UKHEP students benefit from fully supported self-directed learning delivered through the World Wide Web.



Leicester was selected as the regional base of the Science Learning Centre East Midlands. The Centre, part of a national network of Science Learning Centres, offers high quality professional development to those involved in science education, including teachers, technicians and classroom assistants. The aim of the Centre is to reconnect science teaching with the rapidly evolving frontiers of science. It will help teachers and technicians translate the innovations of cutting-edge developments into practical delivery that works within classrooms.

The Centre benefits from a consortium approach led by the University of Leicester with the University of Nottingham and Bishop Grosseteste College, Lincoln. A wide programme of courses is being developed, drawing on expertise from each institution, scientific organisations, local businesses and leading course providers.

Leicester has a proud history of admitting the brightest and best students. 2003/4 saw University staff engaged

in a range of activities to encourage able students from non-traditional backgrounds to consider higher education.

Departments such as Chemistry and Archaeology, for example, maintained a longstanding commitment to work with primary school students – giving them a real taste of the thrill of learning.

More than 2,000 pupils experienced campus culture during visits to the University, and Leicester forged a series of cross regional collaborations with Aim Higher projects across the East Midlands and in Yorkshire. As part of this initiative, pupils from Bradford attended a University experience day involving the University's innovative i-science course.

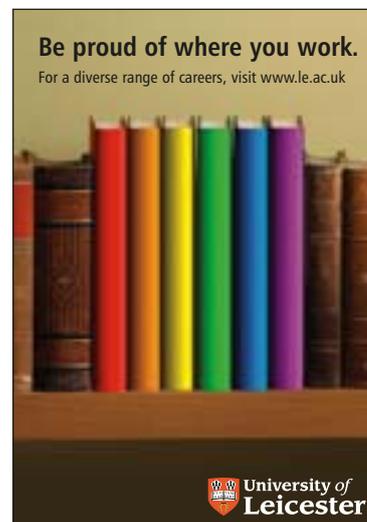
As part of the University's commitment to enhance the provision of Summer Schools, two events were held during the year, delivered for Year 12 pupils as well as Year 11 pupils with the support of academic departments. The teaching at the Summer Schools

closely reflected the type of learning with which University students are engaged. Plans are afoot to hold three Summer Schools in 2005. Masterclasses, Mentoring schemes, Taster courses and more also exemplified how the University of Leicester sought to enrich the quality of educational experience available to people.

The city of Leicester is diverse and friendly, qualities reflected by the University. In 2003/4 the University joined the celebrations at key community festivals including the Caribbean Carnival, the Lesbian and Gay Pride Festival and the Leicester Mela (Britain's largest South Asian festival). A series of special images were

spanning the East and West Midlands, which combines the generic teaching skills required to meet the diverse needs of the post-16 sector, with the specific competencies required to teach the essential skills of numeracy, literacy, ESOL and ICT. A separate initiative which enables undergraduates to gain experience in schools while pursuing their course of study, the Student Associates Scheme, is a three-year TTA-funded project. Newman College, one of the providers of this scheme, is collaborating with the University's Careers office in publicising these opportunities among Leicester undergraduates.

The Colleges-University of Leicester Network is a strategic partnership between the University, two colleges of higher education and 20 colleges of further



developed as the University sought to demonstrate its belief that a diverse student and staff body makes the institution stronger.

2003/4 saw the creation of a new strategic alliance between the University of Leicester and two colleges of higher education – Bishop Grosseteste College in Lincoln and Newman College of Higher Education in Birmingham. Through the alliance the academic programmes of the two colleges are validated by the University. The alliance is key in enabling collaboration on a wide range of initiatives across the Midlands. Early examples of this include collaboration on the East Midlands Science Centre with Bishop Grosseteste and a co-ordinated approach to student recruitment activities, especially widening participation.

A significant achievement of this group is the development of the Professional Certificate in Education, an initial teacher education provision

education. In 2003/4 the CULN network has grown in strength, appointing a co-ordinating team which has been successful in facilitating collaboration between CULN members. A key example of collaboration include 13 academic curriculum planning groups which inform the development of teaching in both the colleges and higher education institutions.

Images (from left to right)

Visit: Leicester's record in widening participation is impressive amongst leading universities. We exceed our HEFCE benchmarks in this area. Here students visit the department of Physics and Astronomy as part of our efforts to raise aspirations.

Agreement: Signing of the strategic alliance with Bishop Grosseteste College in Lincoln and Newman College in Birmingham.

Pride advert: This image was developed for the Leicester Pride Festival. It attempts to demonstrate the University's commitment to diversity. It shows the colours of the Freedom Flag in the spines of the academic books.

# Pride in our students

Individuals from over 150 countries form the University's 19,000 strong community of students. The University is proud of its students and our graduates have a good track record with employers.

With students from over 150 countries an increasing challenge for the University of Leicester has been providing careers education to an international student body. You are as likely to meet a Leicester alumnus in Accra as you are in Market Harborough. Our careers services is leading the way as it adapts to serve students from outside the UK.

Specialist advice for international students has been brought into the careers service. Over 70 former international students are acting as mentors to current international students. This advice and use of alumni gives our students access to the large and active network of Leicester graduates across the globe.

Leicester students are highly prized by employers. Not only do our students enjoy some of the highest starting salaries in the sector but postgraduate students who completed their programmes in 2003 have an unemployment rate of less than 1%. Data from the Higher Education Statistics Agency (HESA) shows that the starting salaries of Leicester graduates are in the top quartile nationally.

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Leicester students won praise from the Careers Research Advisory Centre (CRAC) InsightPlus™ programme. The InsightPlus™ is a significant and respected management skills programme. It offers an award to students who do paid or voluntary work or run a Students' Union society. Over six months they attend three interactive workshops, produce two pieces of written work and give a short presentation to a group including employers.

The InsightPlus™ team praised the University's students. Not only did Leicester provide the most participants but our students also had the highest retention rate and the highest quality of work in the UK.



As part of the programme, students work through practical exercises, including personal goal setting, self reflection and looking at key management issues such as leadership styles, problem solving and customer service standards. InsightPlus™ demonstrates how work experience during their university years can help students work towards the career they want.

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Leicester prides itself on being a friendly university. Students who have devoted their time to helping others in the community gained recognition for their contribution from the Vice-Chancellor, Professor Robert Burgess.

Contact is a student-led association at the University that co-ordinates and promotes volunteering in the community. Students benefit from training opportunities, help with expenses and also social events where volunteers can meet with each other in a fun and relaxed setting.



Membership of Contact doubled during the year as increasing numbers of students played an active part in making a difference in the community. Key projects include supporting primary schools, mentoring young people and providing shadowing opportunities.

The spirit and sense of social responsibility typical of Leicester students is also reflected by individual and collective efforts made for charity. An example of this is the work of RAG which raised £56,000 for charities and good causes during the academic year. Charities benefiting from the students' campaigning and collecting include Breast Cancer Care, the Anthony Nolan Trust, Shelter, and smaller Leicester-based groups.

A new record of £7,000 raised by a single individual, Simon Wilson, smashed the previous record of £5,000.



Images (clockwise from left)

Former High Sheriff of Leicestershire and Chairman of the Everard Foundation, Mr Richard Everard, pictured with student volunteers holding a cheque representing the Foundation's annual funding award to the student volunteer service, Contact.

This year the University of Leicester and De Montfort University ladies rugby teams made history as the first females to play at the Tigers ground in their annual varsity match. It was a University of Leicester double victory as they, along with their male counterparts, beat the rivals.

Leicester University Theatre's *Richard III* was so well received that it was revived for a final one-night stand at Leicester Cathedral – a stone's throw away from where Richard was buried in the city after his defeat at the Battle of Bosworth 500 years ago.



# An enterprising University

The University of Leicester is engaged in the serious commercial application of its research. Leicester is in the business of knowledge and ideas; here world-renowned techniques like genetic fingerprinting were created.

The discoveries and achievements of Leicester academics continue to drive forward the knowledge economy. At the same time the University's conference business continues to enjoy growth and success. In the past five years the number of confirmed conference bookings has grown by 111%, resulting in a 113% increase of total income to the University from conferences.

A number of research developments are being prepared for commercial application. One exciting project is concerned with the development of artificial blood clotting products, another is developing a highly sensitive microarray scanning device, and the third is developing a novel system for rapid charging battery powered fork lift trucks. Key to each of these new ventures is the close collaboration with partners outside of the University who are adding the benefits of their management experience, market contacts and commercial expertise (and sometimes, money) to complement the exploitation of the University's technology in the commercial arena. Further development of the University/Business interface and of highlighting awareness of the University's world class research portfolio is a key mission for the University's Business Development Section.

2004 was a busy and successful year for the University's commercial conference activity generating £1.5m in income for the University. 38,142 bed nights were delivered over the year. With profits ploughed back into supporting the University's core mission, success is of key importance.



An increasing proportion of conferences that chose to hold their events with the University have rebooked and are happy to recommend our facilities to others. The friendly and high quality service they receive is the important factor behind this.

The Beagle 2 Mars Probe, the UK's first lander mission to another planet, had its Lander Operations Control Centre at Leicester and was staffed by members of the University. Although not successful in its primary objective of landing on Mars and searching for life, the spin off benefits of Beagle 2 are enormous. For example, the X-ray spectrometer on Beagle (developed at Leicester, which determines the chemical elements in the soil and rocks) had to be lightweight and operate at low levels of power, and therefore has found application in remote terrestrial environments

such as deep mining and surveyance of third world mineral resources. At just over 33kg (a fifth of the weight of the NASA Mars Rovers) Beagle 2 shows how integrated scientific instrumentation can be constructed for exploration of Mars in the future by the space agencies, including the European Space Agency.

Thanks to work at the University a new generation of gamma cameras is on the horizon. The new camera is a small, affordable, hand-held device, producing higher resolution images than those currently in use. The camera uses novel technology based on Charged Coupled Devices (CCDs), which have been used in X-ray astronomy for many years and are also used in dental X-ray imagers.

In their search for new drugs, pharmaceutical companies produce hundreds of thousands of compounds, all of which need to be screened. Inevitably the screening process reveals many thousands of possible hits, and the companies then need to carry out further tests to discover which compounds they can successfully turn into drugs.

Research carried out by Professor Gordon Roberts and Professor Mike Sutcliffe in the Department of Biochemistry at the University of Leicester, will enable drug companies to carry out much of this early elimination process using computer models of enzymes and compounds. The more costly and time-consuming laboratory tests can then be employed more effectively on those substances most likely to lead to drugs.



Images (clockwise from left to right)

Scionix: An exciting company 'spinout' from the department of Chemistry. Scionix uses ionic liquids for electropolishing.

Beaumont Hall: a popular conference location.

Analysis: Models showing the 3D structure of enzymes can help speed drug development. This representation of a model of a drug bound to cytochrome P450 shows the overall molecule.

A member of the Beagle 2 team inspecting the flight model PAW prior to sterilisation and delivery to the spacecraft. The spin-offs from the cutting edge technology used on Beagle 2 are enormous and will benefit other areas of science.



# Building for the future

The University of Leicester is building for the future with one of the biggest expansion plans of any university in the UK. The £300m programme involves investment in new buildings and student accommodation and is enhancing the student and staff experience at Leicester.

By improving and creating new teaching and research facilities, it is helping to foster the dynamic intellectual environment characteristic of leading universities.

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The five-storey Biomedical Sciences Building forms a new landmark on the Leicester skyline, and will provide researchers and postgraduate students in biomedical sciences with 9,500 square metres of extra space with state of the art facilities for more than 200 scientists.

The building has 20 laboratories, a lecture theatre, cold rooms, dark rooms, instrument areas, cell culture facilities, NMR suites, autoclaves, a research library and interactive areas, among other facilities.

The work in the building will be focussed on understanding in detail the function of biological systems in health and disease, at levels ranging from individual molecules to whole organisms, including man. Much of the work will have practical applications in the medium to long term, for example to drug design. The new facilities will ensure that Leicester can maintain its position for having one of the top Schools of Biological Sciences in the UK.

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The arts are an important part of the University's environment. Works by prestigious international sculptors of our times, including works by members of the Royal British Society of Sculptors, graced the University's Sculpture in the Garden exhibition. A display of sculpture by 26 artists, many of whom have work in major galleries and museums across the world, were featured in an outstanding natural setting.

Dr Helaine Blumenfeld, an honorary graduate of the University, also donated a work of art to the University



through the generosity of local businessman Dr Frank May and his wife, Katherine. *Shadow figures: dialogue* was installed in the University Library.

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Work was completed on the Michael Atiyah Building which houses research teams from a number of disciplines in the Faculty of Science, and will strengthen the links between them.

Named after the Chancellor of the University the building is peopled by staff from the departments of Engineering, Mathematics, and Physics and Astronomy and also houses two research centres whose work is of international significance: the Space Research Centre and the Multidisciplinary Centre for Mathematical Modelling.

The boundaries between disciplines are now the most fertile grounds for scientific advances. Multidisciplinary modelling is a powerful tool, for example in

understanding the relationship between the behaviour of atoms and what happens on the everyday scale. The vision is that by bringing together mathematicians, engineers and physicists, exciting interdisciplinary projects will develop particularly in the modelling area.

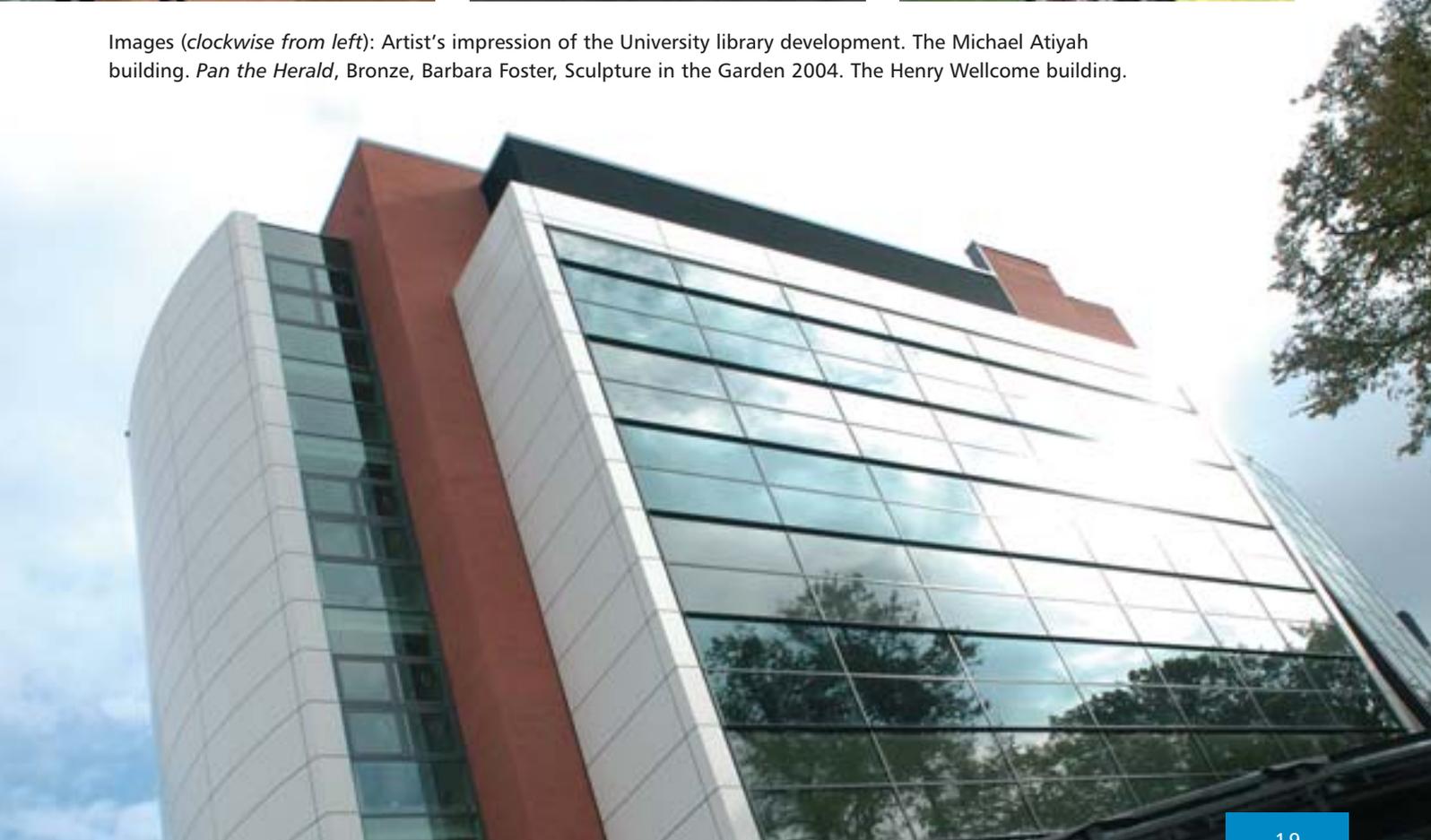
In 2003, the University unveiled refurbished accommodation for Chemistry that includes state of the art laboratories, write-up areas, offices and facilities for people with disabilities. The George Porter Building has been renovated and refurbished to incorporate all scientific research work in addition to its existing resources which have been greatly improved.

The first building to be formally opened in 2004 was the new location for the School of Archaeology and Ancient History. One of the top ranked departments in the country with an international reputation, the School now has dedicated facilities in a refurbished building designed for its needs.

Investment in the University infrastructure continues apace with the year ahead seeing the occupation of a new £20m Biomedical Sciences Building providing first rate facilities for more than 200 scientists as well as a multi-million programme of investment in the University's residential estate.



Images (clockwise from left): Artist's impression of the University library development. The Michael Atiyah building. *Pan the Herald*, Bronze, Barbara Foster, Sculpture in the Garden 2004. The Henry Wellcome building.



# Distinctive achievements

In the final analysis a University is only as strong as the people who comprise it. Leicester works hard to bring the best and brightest people to the University. 2003/4 saw colleagues win a range of honours, awards and distinctions.

## Awards, distinctions and honours

(in chronological order)

We do not have the space to celebrate every achievement by staff at Leicester but here are just some of their achievements.

**Professor Peter Farmer** (MRC Cancer Biomarkers and Prevention Group/Biochemistry and Chemistry) was awarded the RSC's Bioanalytical Chemistry Award, sponsored by Whatman plc. Professor Farmer was recognised for his outstanding contribution to research and scientific excellence in chemical toxicology by the European Society of Toxicology (EUROTOX). Professor Farmer was also received a Royal Society of Chemistry award for the development of new analytical methods using bioanalytical techniques.

Former University Pro-Vice-Chancellor **Professor John Holloway**, OBE, (Chemistry) received the RSC's Service to the Society Award. Professor Holloway was also elected to the Council of the British Association.

**Dr Marcus Cooke** (Cancer Studies and Molecular Medicine) was awarded the title of Young Scientist of the Year by the European Environmental Mutagen Society.

**Professor John Hunton** (Mathematics) had his monograph, *Topological Invariants for Projection Method Patterns* (with Forrest and Kellendonk), named as one of those publications receiving a 'Featured Review' by the American Mathematical Society. Only 70-80 such publications in the whole of mathematics receive such a distinction each year.

**Professor Sir Alec Jeffreys**, FRS (Genetics) was awarded:

- the Terence J Green Award by the International Homicide Forensic Association for his significant contribution to the investigation of homicide
- the Carter Medal by the Clinical Genetics Society

- the Howard Steel Medal by the British Orthopaedic Association
- the 2004 Louis-Jeantet Prize for Medicine (co-recipient)
- the honorary degree of Doctor of Science by the University of Hull
- an Honorary Medal by the Royal College of Surgeons of England
- an Award for Excellence in Molecular Diagnostics from the US Association for Molecular Pathology
- an honorary degree from the University of Oxford
- a Lifetime Achievement Award at the *Daily Mirror's* Pride of Britain Awards 2004.

**Professor Richard Rodger** (Historical Studies) was awarded the Frank Watson Prize for his book, *The Transformation of Edinburgh: Land, Property and Trust in the Nineteenth Century*.

University of Leicester Chancellor **Sir Michael Atiyah** and honorary graduates **Sir Paul Nurse** and **Lord Mackay of Clashfern** received Royal Gold Medals for Outstanding Achievement. The medallists, selected by The Royal Society of Edinburgh, were chosen for their intellectual endeavour which has had a profound influence on people's lives worldwide. Sir Michael Atiyah also was awarded the Abel Prize for 2004 by the Norwegian Academy of Science and Letters.

**Dr Martin Tobin** (Health Sciences) was awarded the Roger W Williams Award by the International Genetic Epidemiology Society for the second consecutive year.

**Dr Ann Briggs** (Education) was given an award of £2,000 by a Learning and Skills Research Network Conference for the best research paper at the conference, and was commended for her contribution to research in the sector.

**Dr Prashant Kidambi** (Historical Studies) was awarded the Herman Diederiks prize by the International Association for the History of Crime and Criminal Justice for his article, *The Ultimate Masters of the City: Police, Public Order, and the Poor in Colonial Bombay 1893-1918*.

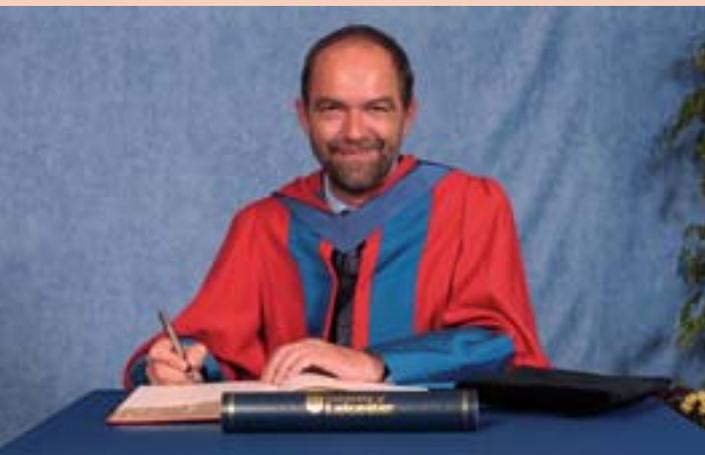
**Dr Angela Lennox** (Medical and Social Care Education) was named Leicestershire's Woman of the Year at the county's first Women of Achievement Awards ceremony.

**Dr Gavin Jack** (Management Centre) won the Best Paper Award for the Research Methods Division for his paper submitted to the American Academy of Management.

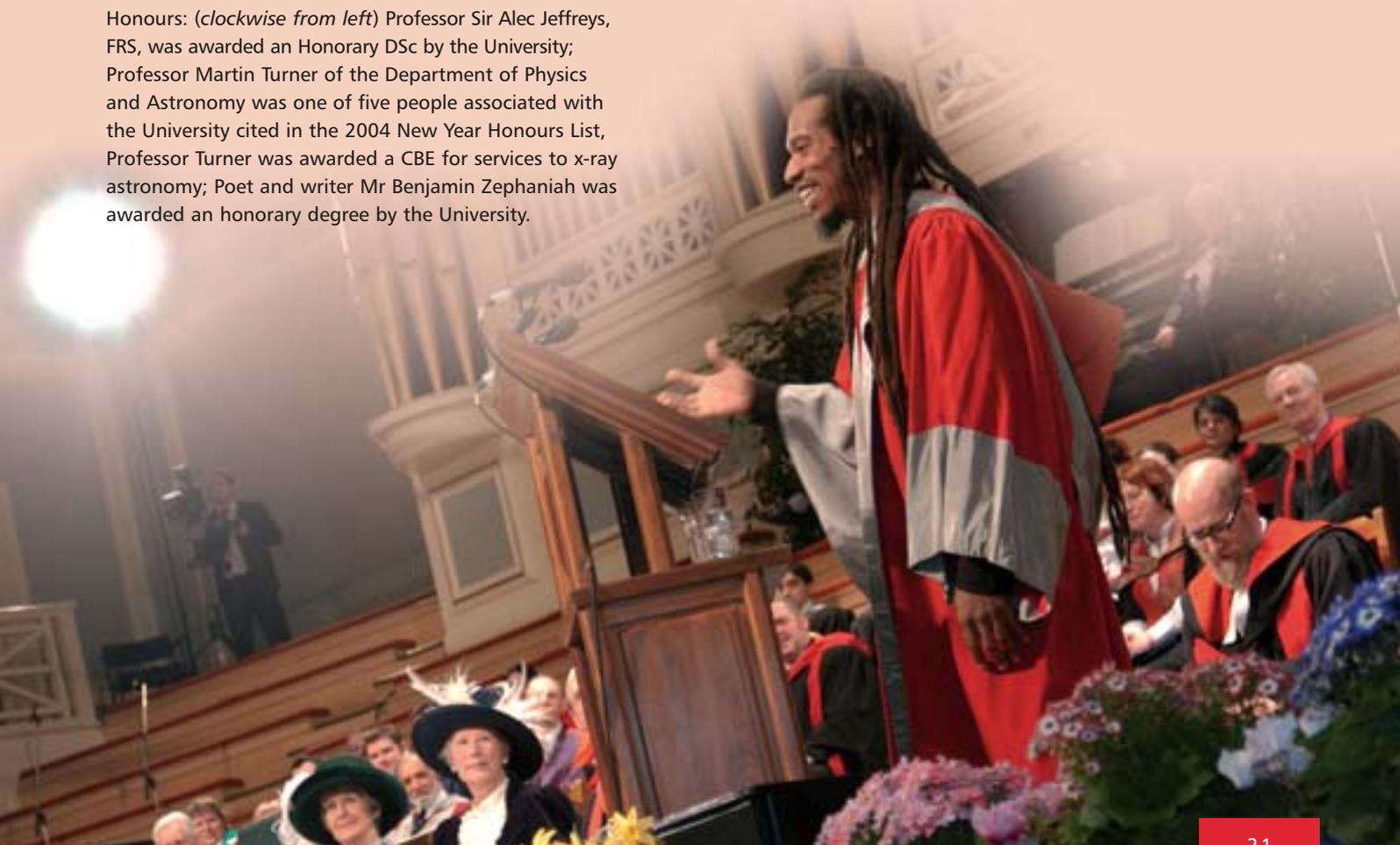
**Professor Alun Jones** (Geography) won the Royal Geographical Society's Edward Heath Award for 'contributions to EU rural policy and to the understanding of its impacts'.

**Dr Simon Møller** (Biology) was awarded a President's Medal in 2004 by the Society for Experimental Biology and was also awarded the Federation of European Societies of Plant Biology (FESPB) Award for 2004.

**Professor Joanne Shattock** (English) was awarded an honorary degree (DLitt) by the University of New Brunswick, Canada. Professor Shattock was also nominated as a member of the AHRB's Peer Review College. She has also been appointed by the Council for College and University English (CCUE) to act as evaluator of the English Subject Centre in 2004.



Honours: (clockwise from left) Professor Sir Alec Jeffreys, FRS, was awarded an Honorary DSc by the University; Professor Martin Turner of the Department of Physics and Astronomy was one of five people associated with the University cited in the 2004 New Year Honours List, Professor Turner was awarded a CBE for services to x-ray astronomy; Poet and writer Mr Benjamin Zephaniah was awarded an honorary degree by the University.



**Dr Emma Bunce** (Physics with Astronomy) was awarded the 2004 'Prix Baron Nicolet' by the Royal Academy of Sciences, Letters, and Fine Arts of Belgium for her research in Planetary Science.

**Dr Penny McParland** (Cancer Studies and Molecular Medicine) was awarded a prize by the Royal College of Obstetricians and Gynaecologists for achieving second

place for the Harold Malkin Prize for 2004 for a paper published in the American Journal of Obstetrics and Gynaecology.

**Professor Marilyn Palmer** (Archaeology and Ancient History) was selected by the USA-based Society for Historical Archaeology as a recipient for an SHA Award of Merit for the year 2005.



## Honorary Degrees

### 5 FEBRUARY CEREMONY:

**Benjamin Zephaniah**, (DLitt), poet and writer.

**Peter Donohoe**, (DMus), internationally acclaimed pianist.

**Indarjit Singh**, (LLD), adviser to the Commission for Racial Equality and Editor of the *Sikh Messenger*.

### 16 FEBRUARY CEREMONY:

**Riccardo Nencini**, (DLitt), President of the Regional Council of Tuscany.

### 14 JULY CEREMONY:

**Jane Glover**, CBE, (DMus), international orchestral conductor.

**Rita Patel**, (LLD), Chief Executive of Belgrave Baheno Women's Organisation and The Peepul Centre and non-executive Director of emda.

**Professor Rosemary Cramp**, CBE, (DLitt), Emeritus Professor of Archaeology, University of Durham.

### 15 JULY CEREMONY:

**Professor Sir William Taylor**, CBE, (DLitt), distinguished educationalist.

**Bob Collins**, MVO, (LLM), former Head of Administration, Leicestershire County Council.

**Sir Martin Gilbert**, CBE, (DLitt), historian and official biographer of Winston Churchill.

### 16 JULY CEREMONY:

**Charles Palmer**, CBE, (MA), former club secretary, captain, chairman and president of Leicestershire County Cricket, Chairman of Leicestershire, an MCC committee member, and MCC President.

**David Wilson**, LLD, Chairman and founder of Wilson Bowden PLC, a major employer in North West Leicestershire.

**Professor David Bradley**, (DSc), Professor of Tropical Hygiene at the London School of Hygiene and Tropical Medicine.

**Professor Sir Alec Jeffreys**, FRS (DSc), Royal Society Wolfson Research Professor, University of Leicester, who invented DNA fingerprinting.

### 9 JULY CEREMONY AT LINCOLN:

**Professor Eileen Baker**, (DLitt), Former Principal of Bishop Grosseteste and a national contributor to teacher education.

**Reverend Professor James McEvoy**, (DLitt), Dean, Faculty of Philosophy, Saint Patrick's College, Ireland, scholar and biographer of Robert Grosseteste, a Bishop of Lincoln.

**Bernard Ashley**, (DLitt), writer of children's books and former teacher.

**Dr Robert Price**, (LLM), Chief Executive of the Linkage Community, and prominent in developing the Olympic Games for disabled people.

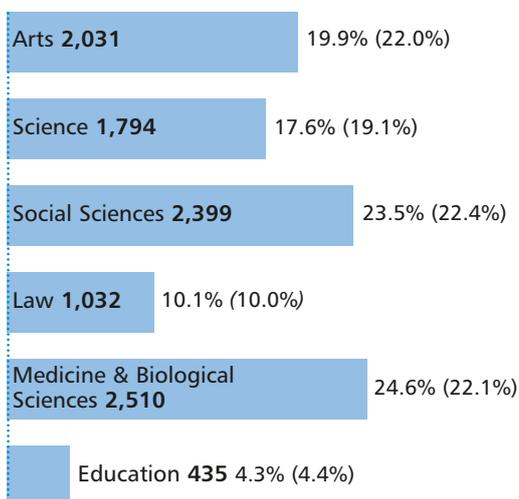
\*A full list of awards, distinctions and honours appears in the Official Record.

# Statistics 2003-2004

Figures in brackets relate to 2002-03

<b>Total Registered Students</b> .....	<b>19,485</b>
Undergraduate .....	10,261 (9,458)
Postgraduate .....	9,224 (9,491)
<b>Distribution of Full-time Students</b>	
Home/EU .....	8,622 (8,242)
Overseas .....	1,579 (1,338)
<b>Full-time Undergraduates over 21 on admission</b> .....	<b>10.5% (9.9%)</b>
<b>Taught Postgraduate Students</b> .....	<b>7,644</b>
<b>Postgraduate Research Students</b> .....	<b>1,487 (1,238)</b>
<b>Distance Learning Students</b> .....	<b>7,006 (7,088)</b>

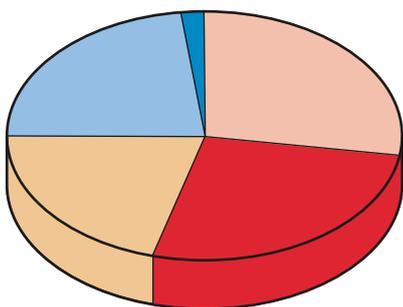
## Full-time Student Numbers



**Total Full-time Students** ..... **10,201 (9,368)**

First Degree Graduates entering employment/training/research .....	88%
First Degree Graduates not available for employment .....	6%
Full-time Higher Degree Graduates entering employment/further training .....	96%
Full-time Higher Degree Graduates not available for employment .....	2%

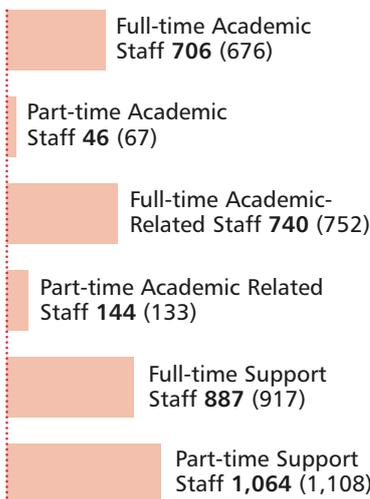
## Total income 2003-2004: £161.4m (£155.1m)



Funding Council Grants	28.3% (28.7%)
Academic Fees and Support Grants	24.3% (23.6%)
Research Grants and Contracts	22.4% (23.8%)
Other Operating Income	24.3% (23.1%)
Endowment Income and Interest Receivable	0.7% (0.8%)

## Staff Numbers

(All sources of funding as of 30/04/04)



Visitor  
HER MAJESTY THE QUEEN

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N. CORAH, O.B.E, D.L.  
SIR TOM MCKILLOP, B.Sc., Ph.D., D.Sc.

Vice-Chancellor  
PROFESSOR R. G. BURGESS, B.A., Ph.D., Ac.S.S.

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Registrar and Secretary  
K. J. JULIAN, M.A.

Librarian  
C. FYFE, B.A., M.A., M.B.A.



### Cover Images

- Teaching in Archaeology, one of 14 subjects rated "excellent" for teaching
- Leicestershire has a leading reputation for postgraduate education. 51% of our students are postgraduates
- Dr Derek Raine, Department of Physics & Astronomy and National Teaching Fellow
- A single human cell prepares to divide in two. Individual chromosomes which carry the genetic material are seen as blue strands while the scaffolding material that will be used to separate the chromosomes is seen in red. Image courtesy of Dr Andrew Fry's team, Department of Biochemistry, who are performing pioneering research into the mechanisms of cell division in cancer
- A selection of high quality research and publications from the University's faculties of Arts, Social Science and Law
- Leicestershire is famous for its space research. Leicestershire scientists use spectroscopy to measure the composition and temperature of stars

There is one companion volume to this report:

FINANCIAL STATEMENTS 2003 - 2004: Contains Treasurer's Report, statements on corporate governance and the responsibilities of Council, and detailed accounts for the year ended July 31 2004.

Available from  
Press and Publications Office  
University of Leicestershire  
University Road  
Leicestershire LE1 7RH  
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