

# Bulletin

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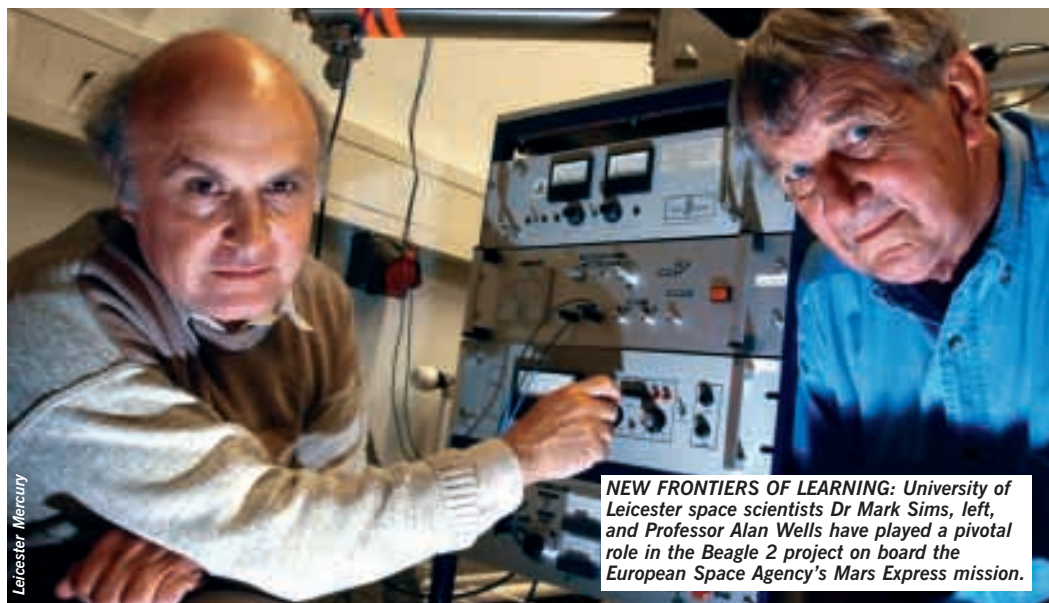
## MISSION TO MARS

► An historic new chapter in the history of the University of Leicester unfolded this month as a new British space odyssey began with the launch to Mars of the European Space Agency's Mars Express Mission, which is carrying the UK's Beagle 2 lander probe. Beagle 2 took off on June 2 at 1845BST from Baikonur in Kazakstan – and is one of four international missions heading to Mars this year. It is due to land on Mars on Christmas Day 2003.

The primary scientific aim of Beagle 2 is to search for evidence of whether life may have existed- or still exists- on or below the surface of Mars. Beagle 2 is equipped with advanced scientific instruments and technology to look for signatures of lifeforms and to explore the geology and environment of the landing site.

The University of Leicester has played a major role in constructing the PAW instrument- the Position Adjustable Workbench – which represents the 'hands and eyes' of Beagle 2. Positioned by a robotic arm, it will examine and collect samples of Martian rock and soil for analysis by the Open University's GAP instrument -the Gas Analysis Package.

Beagle 2 operations will be managed by University of Leicester scientists and engineers in the Lander Operations Control Centre at the



Leicester Mercury

**NEW FRONTIERS OF LEARNING:** University of Leicester space scientists Dr Mark Sims, left, and Professor Alan Wells have played a pivotal role in the Beagle 2 project on board the European Space Agency's Mars Express mission.

National Space Centre, co-founded by the University of Leicester. This team will work in collaboration with the Lander Operations Planning Centre at the Open University, the lead organisation for Beagle 2.

A vital function of the control centre is to test and verify all the commands sent to the probe, using the engineering replica of Beagle 2 which is mounted inside the Lander Operations Control Centre on a panoramic layout of the landing site.

Professor Alan Wells, Director of the University of Leicester's Space Research Centre said: "Our involvement in the mission to Mars is the latest achievement in over 30 years' space exploration by University of

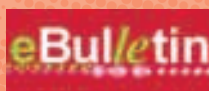
Leicester scientists who have positioned the University as one of Europe's leading academic centres for space research.

"The international standing of the Physics and Astronomy Department is reflected in its winning the Queen's Anniversary Prize for Higher and Further Education nearly a decade ago for world class research. The University played a leading role in establishing the £52million National Space Centre. This role is now further strengthened by obtaining additional funding from the Millennium Commission to locate the Beagle 2 Lander Operations Centre in the University's research facilities at the National Space Centre."



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**More on Beagle 2 – see page 4**



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University of  
**Leicester**



## Medical School is top in UK

▶ The University of Leicester Medical School has been rated as Britain's best school to study Medicine.

It came top in the Guardian subject league tables published last month – and the University of Leicester also leads the country in terms of the level of its taught post-graduate provision according to the Financial Times.

Some of the strongest teaching assessments in the country, significant investment in facilities and a student completion rate few beyond Oxbridge can exceed has seen the University once again rated in the Financial Times' and Sunday Times' group of 20 leading UK Universities.

The University of Leicester Medical School, founded in 1974, is now among the biggest Medical Schools in the UK, following its partnership in 1999 with the University of Warwick.

Dean of the Leicester Warwick Medical Schools Professor Ian Lauder said: "The Medical School is delighted to receive this accolade which is a reflection of the enormous amount of hard work put in by everyone in the School." 📍

## Having the last laugh

▶ Research presented by the University of Leicester reveals that humour can play a key role in international business meetings – and can influence the power-play within meetings.

A study by Dr Pamela Rogerson-Revell, of the University's School of Education found that humour is an important linguistic resource which can be used to include and exclude people – to the extent that members at a meeting can subvert the meeting and even usurp the power of the Chair.

Her study of international business meetings attended by managers of a large international organisation provides a picture of what might happen behind closed board-room doors at international conglomerates.

Dr Rogerson-Revell said: "One commonly recurring interactive strategy in meetings was the use of humour. The findings of the study show that humour is present in all meetings but the frequency and tone of the humour varies. It appears that humour is used strategically to show solidarity and power, particularly by the dominant 'in-group' of western, male participants." 📍

# PROBE INTO MAJOR DISEASES

▶ A team of academics at the University of Leicester are to play a leading role in a £45 million national study that could make a major contribution to our understanding of the causes of common life-threatening and debilitating illnesses such as breast cancer, diabetes, heart disease and Alzheimer's disease.

Leicester will host the administration centre for a consortium of seven universities tasked with recruiting 120,000 patients from GPs surgeries across the Trent, West Midlands and South West Regions. These patients will become part of half a million people nationally who will have their genetic make-up and lifestyles studied over a 15-year period under the ambitious UK Biobank project, being funded by the Medical Research Council, the Wellcome Trust and the Department of Health.

By allowing the researchers to follow their health over this time, the volunteers could be helping to save the lives of thousands of people in generations to come – possibly even

their own grandchildren.

In the past, studies have only been able to take into account lifestyle issues, such as diet and exercise, when predicting what factors may increase the risk of certain diseases. However, recent breakthroughs in the human genome project, which have already identified the function of many genes, mean that through simple blood tests the Biobank project will be able to study participants' genetic information as well and to see how the genes interact with lifestyle.

Professor Paul Burton, who is based in the University of Leicester's Department of Health Sciences and Institute of Genetics, and who is leading the team from Leicester said: "This is a very exciting study. It will help us to tie together genetic information from the human genome project with the major diseases that affect our modern society. This will help us to understand how genes and life style work together to make us healthy or unwell. This should not

only help medical scientists to develop new treatments, but it will also allow us to target health promotion more successfully and to give a clearer message to people about what factors might substantially increase their personal risk of developing a serious illness and what they might be able to do to stay fit and healthy."

Professor Nilesh Samani, British Heart Foundation Professor of Cardiology at the University of Leicester, is heading up Leicester's clinical team on the project. He said: "This is a bold step by the government and the funding agencies – to follow the health and lifestyle of half a million people over 15 years is a huge undertaking. However, the end benefits of the project could be enormous and we look forward to working with the people of Leicester and the whole of Trent. By donating their time, these volunteers could realistically help us to pinpoint the causes of many common diseases – in short they could help us to save thousands of lives." 📍

# DRUG USE IN FOOTBALL

▶ The University of Leicester Centre for Research into Sport and Society has recently, with the cooperation of the Professional Footballers Association (PFA), completed the first ever survey of drug use in English football. Using the PFA database questionnaires were sent to all 2863 player members of whom 708, almost 25%, have so far replied.

The responses were evenly spread between Premiership players and players in the three divisions of the Nationwide League, and the distribution of responses from younger and older players, from regular first team and fringe players, also indicates that the respondents are representative of professional players as a whole.

Dr Ivan Waddington, Director of the Centre said, "Considering the delicate nature of the issues raised in the questionnaire, this was a good response rate. The number and distribution of players who responded to the questionnaire enables us to have a good deal of confidence in the results of the survey.

"We undertook the survey because it is widely recognised among anti-doping experts that the number of positive test results is a poor indication of the extent of doping in sport. Anonymous surveys of participants have, in the past, provided much more realistic estimates of the extent of drug use within sport. In this regard our survey provides a more accurate picture of the extent of drug use in football than do the results of the UK Sport/Football Association testing programme.

The key findings of the survey were:

- Although there is greater absolute number of tests in football than any other sport, the large number of professional footballers means that they are tested on average just once every three years. 36% of respondents had not been tested at all in the last two years and 60% of players felt that they were not likely to be tested in the next 12 months. This compares unfavourably with the level of testing in track and field;

a Sports Council survey in 1995 found that 75% of track and field athletes had been tested during the previous year, and only 16% thought that they were not likely to be tested in the next 12 months.

- Almost 6% of our sample indicated that they had been told in advance that they would be tested. This represents a clear breach of drug testing protocol.
- 70% of players indicated that recreational drugs were used by footballers and 46% of players personally knew other players who had used them. 1 in 8 respondents estimated that 6% or more of players in the game used recreational drugs.
- 50% of players indicated that performance enhancing drugs were used by footballers and 5.6% of players personally knew other players who had used them. 1 in 9 respondents estimated that the proportion of players in the game using performance enhancing drugs was over 3%. 📍



# University of Leicester Honorary Degrees

▶ Thirteen celebrated people are to be awarded honorary degrees by the University of Leicester at degree ceremonies between 9th-11th July in front of thousands of students and their families.

The honorary graduands come from across the UK and the USA, and from the worlds of theatre, broadcasting, journalism, music, science, medicine and education. They include two of the University's most distinguished professors.

Vice-Chancellor Professor Robert Burgess said: "We are delighted to honour this group of people whose achievements have contributed so much to so many aspects of public life. They have all been distinguished in their respective areas of expertise and in many cases have established close links with the University and the region. They are an inspiration to our students."

Recipients of the University of Leicester 2002 honorary degrees are as follows:

## Wednesday 9th July

### ▶ Morning:

**Mr Anthony Howard, CBE**  
(Doctor of Letters)

A columnist and former Obituaries Editor at *The Times*, Anthony Howard received the CBE in 1997. His publications include contributing to *The Baldwin Age* (1960), editing the *Crossman Diaries* (1979), writing *Rab: the life of R A Butler* (1987), and contributing to *Secrets of the Press* (1999).

**Mr Peter Preston (Doctor of Letters)**  
Columnist and Editorial Director of the Guardian Media Group, Peter Preston was a student at Loughborough Grammar School. He has written two books and is the recipient of numerous newspaper awards.

### ▶ Afternoon:

**Ms Patricia Hodge**  
(Doctor of Letters)

Making her debut in Edinburgh in 1971 with *No One Was Saved*, Patricia Hodge won a Laurence Olivier Award for Best Supporting Actress in 2000 for her part in *Money*. Film roles include *Betrayal* and *The Elephant Man*.

**Ms Siobhan Davies, CBE**  
(Doctor of Letters)

A leading dancer and choreographer for London Contemporary Dance Theatre, Siobhan Davies made her first piece, *Relay*, in 1972. She was named as one of six Creative Britons in 2000 and awarded a CBE in 2002.

## Thursday 10th July

### ▶ Morning:

**Professor Sir Martin Harris, CBE**  
(Doctor of Letters)

Vice-Chancellor of the University of Manchester, Sir Martin Harris began his academic career at the University of Leicester in 1967, where he lectured in French Linguistics. He received the CBE in 1992 and was knighted in 2000.

**Professor John Matthews, DPhil, FRHistS, FSA, FBA**  
(Doctor of Letters)

Professor of Roman History at Yale University, John Matthews is a former student of Wyggeston Boys' Grammar School (now Wyggeston & Queen Elizabeth I College), and a graduate of Queen's College, Oxford. He has been described as one of the leading scholars of the late antique world.

### ▶ Afternoon:

**Dame Gillian Weir, DBE (CBE),**  
(Doctor of Music)

Organist Dame Gillian Weir has performed across the world with leading orchestras and conductors. Also a broadcaster, teacher and writer, she is known for her virtuosity, musicianship and charisma.

**The Honourable Mrs Ann Brooks**  
(Doctor of Laws)

A key figure in public life in Leicester and Leicestershire, Ann Brooks has engaged in a variety of charitable works. She is the wife of the former Lord Lieutenant of Leicestershire.

## Friday 11th July

### ▶ Morning:

**Dr June Scobee Rodgers**  
(Doctor of Science)

Wife of American astronaut R Francis "Dick" Scobee, who sadly died in the 1986 explosion of the Challenger spacecraft, Dr June Scobee Rodgers is the founding Chairman of the Challenger Center for Space Science Education. A lifelong promoter of science



**Professor Sir Alec Jeffreys (top); Sir Paul Nurse (bottom left); Siobhan Davies (top right); Professor Sir Peter Bell and his wife, Anne (bottom right).**

and maths education in the USA, she has long been an Anglophile as well.

**Dr Adam Hart-Davis**  
(Doctor of Science)

A familiar face on television as the enthusiastic presenter of the history series *What The Stuarts/Tudors Did For Us*, Adam has been a freelance photographer, writer and broadcaster since 1994. His publications include numerous books on science, mathematics and ghost stories.

### ▶ Afternoon:

**Professor Sir Paul Nurse, PhD, FRS**  
(Doctor of Science)

Chief Executive of Cancer Research UK since August 2002 following the merger of the Imperial Cancer Research Fund with The Cancer

Research Campaign. In 2001 Sir Paul Nurse was jointly awarded the Nobel Prize for Physiology or Medicine, and received a Knighthood in 1999.

**Professor Sir Alec Jeffreys, FRS**  
(Doctor of Science)

The Wolfson Research Professor of the Royal Society at the University of Leicester, Sir Alec Jeffreys discovered genetic fingerprinting in 1984 and has been Professor of Genetics since 1987. He was knighted in 1994.

**Professor Sir Peter Bell, MD, FRCS**  
(Doctor of Science)

Knighted in 2002 for services to Surgery, Sir Peter Bell has been Professor of Surgery at the University of Leicester since 1973.

• Fuller biographical notes are on eBulletin ☺



# From Here to Eternity...

► The University of Leicester has played a key role in the development of Beagle 2 which is the first European lander to be sent to Mars. The Beagle 2 project is led by the Open University, in partnership with the University of Leicester and Astrium UK. The British National Space Centre and the European Space Agency are also funding partners in Beagle 2. The Open University has provided the science lead, and Astrium, which is the prime industrial contractor, has been responsible for the main design, development and management of the Lander. The University of Leicester has undertaken the payload and mission management roles as well as the development of the PAW and the X-ray Spectrometer instruments described below.

Professor Alan Wells, Director of the University's Space Research Centre said: "The decision to control operations of the Beagle 2 Lander from Leicester has come as a real coup for the partnership between the University and the National Space Centre. The Lander Operations Control Centre will be located in the University's new Space Research facilities at the National Space Centre, which consist of a satellite control centre whose activities can be shown to members of the public and school groups who visit the National Space Centre. The Lander Operations Control Centre will complement the Lander Operations Planning Centre which is based at the Open University, where science operations planning and analysis will take place, by turning the scientific plans into command instructions for the spacecraft, and ensuring safe operation of the lander on Mars by analysis of returned spacecraft data.

"The University team will be managing the operation of this exciting mission, and we will be doing it in the country's only science centre dedicated to space. Truly a case of bringing Space Science and University research to the wider public and a good example of partnership-in-action between the University of Leicester and the National Space Centre."

Dr Mark Sims, who leads the

Leicester programme on Beagle 2 and the Lander Operations Control Centre team said. "Beagle 2 is equipped with scientific instruments to look for evidence of life: the presence of water, organic residues trapped inside Martian rocks or soil and the presence of tell-tale gases (the waste from living organisms in the atmosphere). The PAW, designed at the University of Leicester represents the eyes and hands of Beagle 2. Positioned by a robotic arm, the PAW will examine and collect samples then deliver them to the Open University's Gas Analysis Package (GAP) which will conduct the detailed chemical analysis to look for the sign of life.

"Amazingly, Beagle 2 weighs in at less than 30kg when it finally reaches the surface of Mars, with only 9kg, devoted to the instruments and tools needed for the scientific analysis. This is the most ambitious experiment package in terms of spacecraft mass ever attempted."

The PAW is constructed around a lightweight cast aluminium structure and its own set of control electronics both designed and assembled at the University of Leicester.

Mounted on the PAW are:

- A Stereo Pair of Cameras to image the landing site and identify nearby rocks – provided by a consortium led by Mullard Space Science Laboratory, University College London
- A Microscope to examine the microscopic structure of the rocks and soil – provided by the Max Planck Institute for Aeronomy Lindau in Germany
- A Gamma-ray Mossbauer Spectrometer to measure the oxidation state of iron minerals in the soil and rocks – provided by the University of Mainz in Germany
- An X-ray Spectrometer to measure the elemental composition of the rocks and soil – provided by the Leicester team led by Professor George Fraser
- A Rock Corer/Grinder provided by Hong Kong Polytechnic Hong Kong, China with technical assistance from Leicester based on a concept developed by TC Ng
- A Mole, a self burying drill and soil



*'The designers and engineers involved in the [Beagle 2] project have achieved an extraordinary feat. This is a testament to the UK's strengths in engineering and world-class scientific expertise.'*

SCIENCE MINISTER LORD SAINSBURY

collection device – built by a consortium led by DLR (German Aerospace Research Establishment) Koln.

Scientists at the University's Space Research Centre also recreated the hostile environment found on Mars in their laboratory, with a device known as the Martian Environment Simulator (MES). The machine reproduces the temperature, air pressure and unbreathable atmosphere known to exist on Mars in order to test equipment on the Beagle 2 lander.

A model of the lander was shown to HRH The Duke of Edinburgh when he visited the Space Research Centre at the University and her Majesty the Queen also saw the preparations and met with University representatives when she visited the City during her Jubilee Year.

Science Minister Lord Sainsbury hailed the UK's science community and more than 60 British companies involved in the development and

construction of the Beagle 2 lander – including the University of Leicester's role in this project as one of the Principal Investigators.

Speaking at the Royal Society, he said: "The project involves a consortium of more than 100 academic institutions and industrial subcontractors. The lander was built in an extremely short time, and to stringent specifications. The designers and engineers involved in the project have met those challenges head-on and come up with a series of innovative solutions."

"They have achieved an extraordinary feat in designing an array of advanced instruments, capable of performing a series of precise experiments, with their own power supply, protected for their journey to another planet by a unit not much bigger than a motorcycle wheel and weighing less than 30 kilograms."

"This is a testament to the UK's strengths in engineering and world-class scientific expertise. With the



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(Far left) the University of Leicester Beagle 2 team; (main) an artist's impression of Beagle 2 deployed on the surface of Mars; (left) an artist's impression of Mars Express orbiting the planet's surface.

experience gained and skills acquired through working on Beagle 2, UK firms have reinforced their reputation as sought-after partners in international projects."

The Mars Express spacecraft, part of ESA's Horizons 2000 programme, is designed to take a payload of seven state-of-the-art scientific instruments to orbit Mars as well as the Beagle 2 lander. Making measurements in a number of ways, these instruments will tell us more about the planet's atmosphere, surface and even its interior. UK Universities have made important contributions to three of these seven instruments.

The orbiter instruments will record data for at least one Martian year, or 687 Earth days; Beagle 2 is designed to work for 180 Earth days. The satellite will also carry a data relay system for communicating with Earth, including the transfer of command and science data to and from Beagle 2.

Beagle 2 is designed to look for

signs of life on Mars. It will be ejected from the orbiter and parachute down to the surface of the planet. On touchdown, it will deploy its robotic arm and paw which includes a mole to burrow into the ground and collect soil samples. These will be analysed for signs of past and present biologi-

cal activity using the innovative Gas Analysis Package (GAP) developed by Professor Colin Pillinger's team at the Open University.

The lander is also packing a suite of instruments that will take pictures, acquire geological information and study the weather, including temperature, pressure and wind.

Beagle 2 is an integral part of the Mars Express spacecraft and many of the instruments will work together in harmony, reaffirming and corroborating each other's results.

The many UK companies involved in Beagle 2 include:

- Coda/SciSys, based in Chippenham, Wiltshire – For developing the software for Beagle 2, enabling it to deploy solar arrays, record images

of the Martian surface and send data to the Mars Express.

- Systems, Engineering and Assessment Ltd (SEA), Beckington, Somerset – Responsible for the main Processor for Beagle 2, which controls all the instruments on the lander so it can gather information. The processor works on very low power – the equivalent of two torch batteries.
- QinetiQ, Farnborough, Hampshire – Developed the communications package for both the lander, Beagle 2, and the orbiter, Mars Express.
- Rutherford Appleton Laboratory, Chilton, Oxfordshire – Carried out thermal testing for the lander, helping it to withstand the harsh conditions of the Martian surface.
- AEA Technology, Chilton, Oxfordshire – Provided the batteries to power Beagle 2 and Mars Express.

The Beagle 2 lander is funded through a partnership arrangement involving the Open University, Astrium, the DTI, the Particle Physics and Astronomy Research Council (PPARC), the Office of Science and Technology and the ESA, with the PPARC additionally providing part support for the mission instruments. Principal Investigators for Beagle 2 come from the Open University (Gas Analysis Package), University of Leicester (Environmental Sensors and the X-Ray Spectrometer) and Mullard Space Science Laboratory (Imaging Systems).

- **More on Beagle 2 is featured in eBulletin**

## Beagle 2 Factfile

- The total cost of Mars Express is 160mEuro and Beagle 2 is £45m.
- In December, the Beagle 2 is set to reach the Red Planet.
- It is attached to one side of the Mars Express spacecraft underneath the umbrella of its heat resistant shield.
- It will eject from Mars Express five days before reaching Mars and, as it has no propulsion system of its own, the angle of trajectory upon separation has to be accurate and is provided by careful alignment of Mars Express prior to ejection.
- It will enter the Martian atmosphere travelling at Mach 31.5 – over 22,000 km per hour.
- During entry into the Martian atmosphere, the Beagle 2 heat-protective shield may reach 2000 degree centigrade.
- It will land on Isidis Planitia -11.6 degrees N and 269.25 degrees west- close to the Martian equator.
- Beagle 2 weighs 65kg and is 0.95m in diameter.
- It uses solar power to recharge its batteries.
- Beagle 2 will send back a musical signal consisting of 9 digitally encoded notes to the UK, confirming it has arrived safely.
- The first live panoramic pictures from Mars will be beamed down direct to the control centre in Leicester and to the science team at the Open University.
- During the mission – which it is hoped will last at least 180 Martian Days (Sols), or ~200 Earth days – people will be able to watch scientists and engineers working at the £2million control centre.
- It is the first time that a space mission will be conducted in a science visitor centre open to the public.



# PROBE INTO LINK BETWEEN CAFFEINE CONSUMPTION AND LOW BIRTHWEIGHT

► The Universities of Leicester and Leeds have been commissioned by the Food Standards Agency to study the possible association between maternal caffeine consumption and low birthweight.

The Agency has commissioned the study to reduce uncertainties in the current risk assessment and provide a more robust basis for the Agency's advice to pregnant women on caffeine consumption.

In October 2001, the Agency advised that pregnant women should limit their caffeine intake to the

equivalent of no more than four average cups of coffee a day. The advice was based on the opinion of the Committee on Toxicity (COT) on the reproductive effects of caffeine.

Unlike much of the previous research into the possible effects of caffeine on reproductive health, the Agency's new study is a prospective study that includes biomarkers of caffeine intake and explores inter-individual variations in caffeine metabolism.

In addition it will consider all sources of caffeine intake, not just

tea and coffee. The study, which forms part of the Agency's Risk Assessment Programme, started in January 2003 and is planned to report at the end of March 2006. It involves a consortium between the Universities of Leeds and Leicester.

It will investigate a total of about 3,000 pregnant women – it is estimated that about 300 (10%) will deliver low birth weight babies.

The Leicester team is headed by Dr Marcus Cooke (Department Clinical Biochemistry), with clinical support from Dr Justin Konje (Depart-

ment Obstetric and Gynaecology), in consultation with Dr Mark Klebanoff (National Institute of Child Health and Human Development, NIH, USA). The Leeds team is headed by Dr Janet Cade with support from Dr Sara Kirk (Nutrition Epidemiology Group). Professor Chris Wild of the Molecular Epidemiology Group is collaborating on the laboratory measurements of caffeine. Professor Fred Kadlubar from the National Centre for Toxicological Research in Arkansas will act as consultant to the team. ☺

# HERO WORSHIP – GOOD OR BAD?

► Celebrity worship syndrome suggests that, although following a celebrity can be a positive influence on people's lives, in some extreme cases people admit they would lie, steal or worse if the object of their admiration asked them.

These are some of the findings of a new research programme conducted by psychologists at the University of Leicester in conjunction with psychologists in the USA.

Their findings also indicate that celebrity worship is not just the remit of teenage girls prone to idolisation or

science fiction fans, but affected up to nearly 30% of the people sampled.

Recent studies carried out by the team suggest that there seem to be three main dimensions to celebrity worship. Low levels involve following a celebrity for entertainment and social reasons, chatting with friends and talking about the object of your admiration.

Intermediate levels of celebrity worship, by contrast, are characterised by more intense and personal feelings, reflecting an individual's belief that he or she may have a spe-

cial bond with the celebrity.

High levels of are thought to resemble more social-pathological attitudes and behaviours that are held as a result of worshipping a celebrity.

In a recent paper by the team in the *Journal of Nervous and Mental Disease*, the authors reported findings that suggested that there might be both positive and negative consequences of following a celebrity.

People who do so for entertainment and social reasons are also found to be more outgoing, happy and optimistic. However those who follow

celebrities for intense-personal reasons are likely to be more depressed and anxious, whilst those who demonstrate high levels of celebrity worship may well be solitary, impulsive, anti-social and troublesome.

Dr John Maltby, University of Leicester Lecturer in Psychology, commented: "It has to be remembered that celebrity worship is not necessarily a bad thing. However, our findings suggest that, like many other behaviours, over-indulgence in one thing may not always be good for you." ☺

# CHILDREN AND FASHION

► Many parents will be all too aware of the importance that fashion can play in the lives of children and families. Many will have experienced that sinking feeling when nothing but the designer trainers, jeans, jacket or shirt will do, regardless of expense and sometimes of taste!

But why does fashion hold such influence over even quite young children? A team of University of Leicester sociologists has won funding from the Economic and Social Research Council to examine this and other issues surrounding children's clothing consumption.

Drs Christopher Pole, Jane Pilcher, Tim Edwards and Sharon Boden are working with 6-11 year olds and

their families from different social backgrounds in different parts of the country to study their clothing purchases over twelve months. At the end of their study they hope to understand what motivates children to choose the fashions they wear, how clothing purchases are negotiated within the context of the family and something of the significance of clothing and fashion in different aspects of children's lives.

Also by interviewing executives from the children's clothing industry the Leicester researchers hope to find more about the role design and marketing play in persuading young people what everybody and nobody wears – and why. ☺

# BACKPACKING FLAMINGOS

► Backpackers are notoriously difficult to keep in touch with – nomadic, unpredictable, moving long distances overnight, gathering in immense crowds and often only contactable by means of expensive communications systems.

The same is true – strange as it may seem – of lesser flamingos, in particular four 'backpacking' males which in 2002 initiated a University of Leicester, Wildfowl & Wetlands Trust & Earthwatch Institute research study. Although three birds have faithfully 'checked in' regularly, one errant bird has gone missing with its communications equipment in tow causing a flutter of activity in tracking it down.

Thanks to new funding from the Vodafone Foundation and the Darwin Initiative of the UK government, researchers led by University of Leicester biologists Dr David Harper and Dr Brooks Childress will be able in 2003 to extend the project (started in October 2002) to fit minute backpack satellite transmitters on 4 more flamingos, to provide a solid base for tracking their movements across primary feeding lakes in East Africa.

This pilot study is being undertaken to attempt to answer the many unsolved questions surrounding the lesser flamingo, *Phoenicopatias minor*, and thereby increasing its chances of survival. ☺



# Obituaries

The University has learnt, with regret, of the death of the following:

► **Emeritus Professor Brian M Wilkins**

Brian Wilkins used genetics to study mechanisms controlling the horizontal spread of genes in bacterial populations. His work was of great intrinsic interest as a study of complex biological phenomena, but also had broader impact in revealing mechanisms driving the spread of antibiotic-resistance in bacterial populations and events in important infectious diseases.

Brian was born in Cheltenham and brought up in Bristol, where he attended Clifton College. He read Botany as a Neale Exhibitioner at Queen's College, Oxford, graduating with second class honours in 1962. He was awarded a Christopher Welch Scholarship to support his DPhil research on genetic recombination in bacteria, under the supervision of E A Bevan. During his postgraduate training he attended a course in Naples on the genetics and physiology of bacterial viruses that had a lasting influence on his scientific interests and his experimental design.

After a brief period at Queen Mary College, London, Wilkins joined the laboratory of Paul Howard-Flanders in the Radiobiology Laboratories, Yale University School of Medicine, as a postdoctoral research associate. Howard-Flanders was a British-born geneticist who was established amongst the international network of scientists interested in the mechanisms of replication, recombination and repair of DNA molecules. Together with Dean Rupp and others, they published several important papers on the replication and recombination of bacterial DNA that had been damaged by UV irradiation.

In 1969, Wilkins was recruited by Bob Pritchard to join the emerging new Department of Genetics at the University of Leicester. There he continued to work on processes related to DNA recombination, with increasing emphasis on the role of plasmid-borne genes in the transfer of DNA between bacterial cells. As early as 1975 he produced evidence for a genetic interaction between certain plasmid genes and host genes encoding components of the cellular DNA

replication machinery.

Developments of this observation in his laboratory led to the discovery of a plasmid gene encoding DNA primase, an enzyme crucially involved in the initiation of DNA replication. Wilkins and his colleagues established that the plasmid-specified primase protein was transferred from the donor to the recipient cell during the bacterial 'mating' event, and that this could occur in the absence of DNA transfer. The importance of these observations on plasmid-mediated protein export is emphasised by the genetic homology between the cognate transport proteins and components of secretion systems associated with several clinically important bacterial pathogens, including *Legionella pneumophila*, the cause of Legionnaires' Disease.

Wilkins' interest in plasmid biology and horizontal gene-transfer fuelled a continuing study of the genetic interactions between the plasmid and the recipient cell, in which the newly transferred DNA encounters a potentially antagonistic environment. He pioneered the studies that have shown that the first few plasmid genes transferred are immediately expressed in the recipient cell to produce proteins that help to protect and establish the incoming DNA in the hostile environment. Plasmid-encoded proteins block host-specific degradation ('restriction') of the incoming DNA, inhibit the potentially suicidal 'SOS' response and augment a potentially limiting host protein that is necessary for DNA replication. The relevant plasmid genes are expressed in a transient burst by a mechanism that unusually involves utilisation of the single-stranded transferred DNA as the template for RNA polymerase.

Wilkins' most recent studies, in collaboration with biochemical colleagues, involve exploration of the hypothesis that the single-stranded DNA folds into a unique secondary structure that creates a temporary template for RNA polymerase. Replication of the transferred strand in the recipient would necessarily destroy this special secondary structure and self-limit the burst of gene-expression.

Wilkins' approach to laboratory investigation was reflective and careful. He relished the planning

process, designing the controlled experiment that would test the current hypothesis. Early in his career a referee assessed him as 'interested, original, ingenious and effective': that perceptive description remained true throughout his career. He worked with a small team, often a technician and a PhD student, sometimes a single postdoctoral associate, but was able to make an internationally recognised scientific contribution over two decades.

His status in the field was well recognised. He received frequent invitations to speak or chair sessions at international meetings and to write reviews for leading journals. He was also a very effective university teacher, caring deeply about the welfare of his students and the quality of their educational experience. He was an effective and painstaking administrator and had an integrating influence on his beloved Department of Genetics while acting as Head of Department from 1996 to 2000.

Brian Wilkins had productive interactions with a wide circle of professional colleagues in Europe, Australia and North America, whom he referred to as his 'friends'. He was magnanimous in his relationships and seemed constitutionally incapable of making enemies.

*W J Brammar (Brian Michael Wilkins, academic and research scientist: born Cheltenham, April 3, 1939; Assistant Lecturer and Lecturer, Queen Mary College, London, 1965-66; Research Associate, Radiobiology Laboratories, Yale University School of Medicine, USA, 1966-69; Lecturer, Department of Genetics, University of Leicester, 1969-80; EMBO Research Fellow, Max-Planck-Institut für Molekulare Genetik, Berlin, 1980; Senior Lecturer, University of Leicester, 1980-96; Reader, 1996-2000; Personal Chair in Microbial Genetics, 2000-2003. Head of Department of Genetics, University of Leicester, 1996-2000. 1972, married Susan Hollom; one son. Died April 7, 2003, Leicester)*

► **Mr J Otter**

County naturalist Jack Otter died on April 4, 2003, aged 93. Among his teaching commitments for universi-

ties, he was for several years after his retirement in 1974 from the Leicester firm of Broughton and Jones a tutor at the University of Leicester's Vaughan College. He continued to teach until he was in his mid-eighties, both for the Department of Adult Education at Vaughan College and for the Workers' Educational Association.

From the age of five, Jack Otter had been fascinated by natural history, an interest inspired in him by his grandfather. One of Jack's students, local naturalist Anne Kind, has remarked that it was his enthusiasm for plants, birds and animals that made him such a good teacher. He had a wealth of stories about his subject, and a biography on him written by Anne Kind entitled *Come and See This, Folks*, is a tribute to his remarkable teaching.

In 1977 he was awarded the honorary degree of Master of Science from the University of Leicester in recognition of his services to adult education.

He is remembered with respect and affection by those who knew him. Sympathy is extended to Jack's widow, Jean and to their only son Don and his wife Sandra.

► **Professor R F M Wood**

Surgeon-scientist and teacher Professor Richard Wood, who was recognised internationally in the fields of transplantation and vascular surgery, died on Friday, April 11. He joined Leicester University's Medical School in 1974 as a Lecturer and was promoted to a Senior Lectureship in 1977. He left the University in 1981, and continued his work as a surgeon with a special interest in kidney transplantation at Oxford University, St Bartholomew's Hospital London and, finally, at Sheffield University.

► **Mr R Starbuck**

Roy Starbuck, formerly a Porter at this University, died on Wednesday, May 1. Mr Starbuck joined the University in January, 1973 and worked as a Porter at Digby Hall until his retirement in November, 1993. Donations in his memory can be sent c/o A J Adkinson & Son, Funeral Directors, 12 London Road, Oadby, Leicester, LE2 5DG. ☛



► (Left) Lord Attenborough, pictured on campus next to a painting of his father, Frederick Attenborough who was a former Principal of the University College. Lord Attenborough was filming for a documentary on his life.

► (Top inset) A carnival atmosphere of close to 5,000 fans aided a fast and furious game of eight tries in the second Varsity match at Welford Road. They also helped to create a new Guinness World Record – by downing around 900 half pints of Everards best bitter.

► (Far left) A number of University of Leicester academics are involved with television programmes – among them is Head of English Professor Elaine Treharne, who worked with Eddie Izzard for a programme on English identity. In his own inimitable way he will be filmed speaking to people in Old English, a skill he owes entirely to Elaine Treharne, who spent three hours giving him a crash course.

► (Bottom left) Pupils as young as nine recently experienced life at the University of Leicester – at the request of their schools. A total of sixty children as well as their parents and teachers visited the University and were involved in tours, practical sessions and advice talks. The initiative is part of the University's Widening Participation programme where children from a variety of backgrounds experience University life, particularly if they are the first generation in their families thinking of university.

► (Left) Dr Patrick Clay, of the University of Leicester Archaeological Services, holds a bronze handle from an Iron Age tankard. Leicester archaeologists were involved in investigating the largest ever hoard of Iron Age gold and silver coins ever to be found in Britain. In excess of 3000 coins were discovered in Leicestershire. 16



## Bulletin

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