

The free magazine for The University of Manchester



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Letter from the President



We may look back on 2009-10 as the Year of the Student in UK higher education.

Obviously, in every university worthy of the name, every year is dominated by the needs, aspirations and expectations of successive generations of students, some entering higher education for the first time, others returning with the exciting prospect of graduation before them, all linked in a common hope that at the end of a many-faceted "student experience", their time at university will have been worthwhile in terms both of personal rewards and professional opportunities.

In Manchester, undergraduate students are by far the largest constituency in our university community, and our primary stakeholders. Manchester is a research university of international importance, profoundly committed to the discovery and application of new knowledge and the synthesis of new and existing knowledge to create innovative solutions to human problems. For many of our best and brightest people, it was our research mission that attracted them to Manchester in the first place.

But let us remember that in the eyes of the wider society – and of the Government Ministers, policy advisors and civil servants whose views determine the funding of universities – it is our educational mission what is paramount.

Research need not be done in universities. In some advanced societies the bulk of it is undertaken elsewhere, in specialised research institutes, Government laboratories or private sector R & D facilities.

Higher learning, on the other hand, remains largely the preserve of universities. Accordingly, politicians, policy-makers and, crucially, the voting public, judge universities primarily in relation to their success in providing higher educational opportunities to an ever-increasing proportion of young adults and the effectiveness with which they produce highly skilled, confident, employable graduates.

It is salutary to remember this essential truth at a time of public funding stringency. Even in the toughest financial climate, no-one is going to deny the importance of research. Yet the blunt truth is that when hard decisions have to be made about spending priorities in the UK, it will be judgements about student outcomes that determine whether universities are afforded some protection from the expected funding cuts.

Ironically, at a time when major cuts are on the agenda, the unpalatable truth is that either student numbers or educational quality, or both, are already unsustainable without increased overall investment in at least some UK universities.

Where such new investment will come from is a fundamental question. With the public purse providing less, who will provide more?

Might universities be expected to use existing resources to provide good quality higher learning far more efficiently? If so, how might this be achieved, and with what implications for the research agenda to which universities are also committed?

Should students pay more and, if so, on what basis might they be expected to do so?

Should the whole structure of post-compulsory education be revamped to produce a far more differentiated spectrum of UK universities, leaving the bulk of undergraduate education provision to teaching institutions unencumbered by the high costs of cutting edge research and high quality research training?

It is not my intention to address these questions here, but addressed they must be.

I will conclude closer to home. For quite apart from the common problems of UK higher education, Manchester has special reasons to seek to make 2009-10 a student-focussed year.

Our Undergraduate Education Review, initiated as long ago as mid-2007, is still at a crucial stage of implementation. We are wrestling with the challenges of enhancing the overall Manchester student experience and making higher learning more purposeful and personalised in what remains the UK's largest undergraduate institution. Our major "Learning Commons" is under construction, and although it will not be completed until 2011, its very development will, I hope, serve as a powerful metaphor for the University's absolute determination to make Manchester a profoundly student-centred University.

Most of all, I hope, 2009-10 will be a year of engagement with students. Let us beware of talking impersonally about student needs, concerns and priorities, and instead create formal and informal ways to talk with students and their representatives about these things. This is particularly important at School level. There, if our commitment to transform undergraduate learning in Manchester is teaching us anything, it is that what matters is personal engagement of students with the actual scholars who are teaching them, of learners with actual teachers with whom they are interacting. Facilitating such student engagement is most of all, perhaps, a challenge for Heads of School and elected student representatives, working together.

hlan Gilbert

Professor Alan Gilbert President and Vice-Chancellor

Front cover: Professor Sir John Sulston Photo by Ed Swinden

News



Foundation Day 2009

Four outstanding individuals were honoured by The University of Manchester on Foundation Day (14 October) which, each year, marks the foundation of The University of Manchester.

The world-leading guartet was presented with Honorary Degrees by Chancellor Tom Bloxham at the University's Whitworth Hall.

Professor Julia Goodfellow (Doctor of Science) was the Chief Executive of the Biotechnology and Biological Sciences Research Council (BBSRC) from 2002 until 2007. The BBSRC is the non-departmental governing body responsible for an annual research portfolio worth more than £350 million per annum, funding projects at over 100 universities. She was the first female chief of any research council. Professor Goodfellow is currently the Vice-Chancellor of the University of Kent.

Dr. Ralph Kohn (Doctor of Music) is a practising baritone of professional standard. Having begun his musical studies in Amsterdam with the violin, he subsequently became interested in vocal music and studied and trained in Rome, New York and London. He has given numerous recitals and performances with orchestras in the UK and abroad, and has recorded the major cycles in the Lieder repertoire. He has so far recorded 16 CDs. He is a Fellow of the Royal Academy of Music. Ralph Kohn is a pharmacologist and entrepreneur.

Lord Sainsbury studied History and Psychology at Cambridge University before gaining an MBA at Columbia Business School. He joined J Sainsbury in 1963 where he served as Finance Director and Deputy Chairman before becoming Chairman in 1992. In 1998 he stepped down from his post to become Minister for Science and Innovation, a position he held until 2006. In 2003 he received, on behalf of the Sainsbury family, the Andrew Carnegie Medal for Philanthropy

Professor Sir John Sulston (Doctor of Science) graduated from Cambridge. His work is chiefly on the biology of a nematode and on the sequencing of the human genome. John shared the Nobel Prize in Physiology or Medicine in 2002, and is now a visiting professor in the Institute for Science, Ethics and Innovation at Manchester (See Profile Page 10) of which he is also Chair.

Professor Sulston also gave the Foundation Day lecture, introduced by Professor Dame Nancy Rothwell.

In a piece titled "What is the university for?" he discussed his views on the unique role played by academia in the development of our global society. Institutions such as Manchester, he argued, are uniquely positioned to affect the interplay between the application of innovation social responsibility and the collective good. Our willingness to take on range of roles, including those which act as a counter force to a culture of personal enrichment, offers a real chance for lasting change.

In this context he discussed the importance of curiosity driven research and the pitfalls of investigating only things which we believe to have a profitable application (see also Profile page 10)



News



Micro Men

The early work of pioneering computer scientist Professor Steve Furber from The University of Manchester was brought to life on national television last month.

Micro Men is a new BBC comic drama about the British home computer boom of the early 1980s. It sees legendary inventor Clive Sinclair battling it out with ex-employee Chris Curry, founder of Acorn Computers, for dominance in the fledgling market.

Professor Furber, who is now ICL Professor of Computer Engineering in the School of Computer Science at The University of Manchester, worked in the R&D department at Acorn Computers Ltd from 1980 to 1990.

He was a principal designer of the BBC Microcomputer and the ARM 32-bit RISC microprocessor – both of which earned Acorn Computers a Queen's Award for Technology.

In Micro Men, a young Professor Furber is played by Sam Phillips, who appears with short hair, a beard and glasses – which according to the man himself is "not quite how I appeared then".

He added: "I was asked to give my version of the story and also asked to comment on a draft script for accuracy."

www.bbc.co.uk/programmes/boon5b92

Record numbers on MLP

More than 1,650 students applied for the 2009/10 Manchester Leadership Programme, and the 900 available places have been quickly snapped up.

The MLP combines a creditrated Leadership In Action unit with voluntary work and aims to give students an insight into the key challenges of the 21st century, and the opportunity to develop a range of transferable skills.

There were significant rises in applications seen in the Faculty of Life Sciences and in a range of schools including Computer Science, Languages, Linguistics and Cultures, ARC and Education, resulted from presentations by the MLP Team to staff and students, and new school-based publicity distributed by academics.

The School of Chemical Engineering and Analytical Science (CEAS) have introduced the MLP as a core unit for their second year students. Senior Lecturer Dr Arthur Garforth explains: 'The leadership



skills, ethics and environmental concerns covered in the MLP are rightly on the top of the chemical engineers agenda. CEAS believes that the MLP will make it's graduates better prepared for their careers and life outside University.'

This year 231 students have opted to take the online version of the MLP's Leadership in Action unit. The unit was redesigned over the summer, leading to enhanced navigation facilities, full DDA accessibility and a range of other improvements.

Changes have also taken place with the volunteering component of the MLP. The

www.mlp.manchester.ac.uk

Manchester Leadership Award, that students achieve if they complete both the academic and community service parts of the MLP, will now be available at three levels; gold for 60 hours volunteering, silver for 40 hour and bronze for 20 hours. It is hoped that breaking the volunteering commitment into smaller chunks will encourage students to engage with community activity.

The University's ambition is for an annual increase in student numbers, so that by 2015 over 3,000 students, around half the undergraduate population, will take the MLP each year.

Celebration and relocation

On 7 October, the Ahmed Iqbal Ullah Race Relations Resource Centre hosted a party to celebrate 10 years since its inception and its recent relocation.

Founded by Professor Louis Kushnick, OBE, in 1999, the Centre is named in memory of murdered school boy, Ahmed Iqbal Ullah.

The party was held in the Centre's new premises at Sackville Street and was attended by more than 150 guests representing local schools, community groups, the city's cultural assets as well as University of Manchester staff.

The Centre was also honoured to welcome the Lord Mayor of Manchester and member of staff, Councillor Alison Firth, who introduced the proceedings. Speakers also included, Christopher Searle, (the Centre's Director), Lou Kushnick (pictured right) and the former Lord Mayor, Councillor Roy Walters.

Guests enjoyed a performance from an African drumming and dancing troupe which provided a lively atmosphere. They were also treated to free



body art from a local henna artist and a culturally diverse menu of refreshments.



Boost for accelerator science

The Cockcroft Institute, a partnership between the Universities of Liverpool, Lancaster and Manchester, has been awarded £16.4 million to further research at the forefront of accelerator science and technology.

The funding, awarded by the Science and Technology Facilities Council (STFC), will enable the Cockcroft Institute to build upon its academic expertise and strong research base in accelerator research and development over the next eight years and strengthen its position at the forefront of research into the next generation of frontline accelerators.

Accelerator science underpins a wide range of scientific disciplines and plays a key role in the advancement of research to further understanding of the Universe and in the global challenge areas of energy, security, health and environment. Professor Swapan Chattopadhyay, Director of the Cockcroft Institute and Sir John Cockcroft Chair of Physics at the Universities of Lancaster, Liverpool and Manchester, said: "This investment will ensure the Cockcroft Institute maintains its position at the forefront of accelerator science and help us to develop our research in the areas of particle physics, nuclear and photon sciences in collaboration with colleagues across the UK and abroad."

Working closely with the Cockcroft Institute and other partners as part of the CONFORM project, the University of Manchester is spearheading a multimillion pound drive to develop a prototype `non-scaling fixed field alternating gradient' (NS-FFAG) particle accelerator, which could lead to more effective cancer treatment, greener electricity and less nuclear waste.

Royal Society Professorship

A leading physicist has been awarded a Royal Society 2010 Anniversary Research Professorship in celebration of the Society's 350th anniversary one of only five to be awarded.

Professor Andre Geim is known primarily for the discovery of graphene - a single layer of carbon atoms densely packed into a honeycomb lattice and the first representative of one atom thick materials which, until 2004, had remained unknown.

Graphene has many potential uses ranging from ultrafast transistors to bendable gadgets and from



composite materials to novel batteries, and has been tipped as a likely successor to silicon in electronics.

Professor Geim is also known for his educational experiments on magnetic levitation - the "flying frog" experiment – and the development of a biomimetic adhesive known as "gecko tape".

www.cockcroft.ac.uk

High profile launch for Institute

Last month the Sustainable Consumption Institute (SCI) at the University marked its official launch with the release of a report on the important role of consumers and business in tacking climate change.

More than 280 guests of the President and Vice-Chancellor Professor Alan Gilbert and Sir Terry Leahy, CEO of Tesco (pictured), attended the high profile conference at the Royal Society in London.

The SCI has been established at The University of Manchester with financial support from Tesco, and exemplifies the deep commitment of both organisations to researching and developing solutions to some of the difficult questions of how we move to a lowcarbon society.

The Institute's new report sets out why consumers are part of the solution to climate change and why sustainable consumption should be given greater attention in the debate in the run up to the United Nations' Climate Change Summit in Copenhagen in December. The report will also shape subsequent international negotiations.

Professor Dame Nancy Rothwell chaired the event and the Rt Hon David Cameron MP gave the conference key note address. Sir Terry Leahy presented highlights of the report from a business perspective. There



was the opportunity to debate the issues that have been raised with a panel of Chief Executives of several major global businesses, namely Paul Polman of Unilever; Muhtar Kent of Coca-Cola; Bart Becht of Reckitt Benckiser, Fisk Johnson of SC Johnson and Bob McDonald of Proctor and Gamble.

Academic experts Professor Robert Putnam, the Harvardbased political scientist and international expert on social capital, explored how effective civic engagement by consumers can be fostered and its application to the challenge of tackling climate change. Professor Mohan Munasinghe, SCI Director General and world renowned expert on energy, sustainable development and climate change highlighted the importance of ensuring widespread engagement in the Copenhagen agenda.

The afternoon included a series of workshops where key themes in the report were discussed with senior

academics and lead authors of the report from the SCI, and other leaders from business and nongovernmental organisations.

To download the report, 'Consumers, Business and Climate Change' please visit the web link below or contact Lynda McIntosh, Communications and Marketing Officer on 0161 275 0187 or via email at Lynda.mcintosh@manchester. ac.uk.



News

Half to landfill

The University of Manchester has become one of the first universities in the UK to commit to playing its part in halving the amount of construction, demolition and excavation waste being sent to landfill by 2012.

The University recently signed up to the commitment in conjunction with WRAP* – the Waste and Resources Action Programme.

By signing up to this voluntary agreement, the University has committed itself to developing measures and targets to reduce the amount of construction waste being sent to landfill as a result of its activities, and is also setting targets to increase the use of recycled materials in construction products, in order to reduce its carbon footprint.

Dr Mike Watson, Head of Construction at WRAP commented "Organisations which sign up to the 'Halving Waste to Landfill' agreement are demonstrating that they take the issue of waste seriously and will be key to helping reduce the 25 million tonnes of construction waste which is dumped in landfill every year. They will benefit not only from cost savings and greater resource efficiency, but also play their part in combating climate change".

The University will engage with contractors and consultants in order to promote best practice in waste minimization and practice, through all stages of its construction projects and will measure performance on an ongoing basis.

Specific objectives have already been set for two major construction projects, the Learning Commons and School of Chemical Engineering and Analytical Science (CEAS) projects which mean that these buildings should be designed in a way that minimizes waste, sets targets for the recycling/recovery of any demolition or waste materials produced during the construction itself, that at least 15% of construction materials are derived from recycled material, and will ensure proper recycling facilities are "designed into" the actual building and associated public realm areas from the outset.

Mace Group, the property and construction consultancy is assisting the University via WRAP, to identify and implement changes to the procurement, design, logistics, reporting and management of waste throughout construction projects.

More information on the commitment can be found at the web address below.

www.wrap.org.uk/construction/ halving_waste_to_landfill/index.html

*WRAP is the Government funded organization responsible for helping businesses to reduce waste and recycle more, making better use of resources and helping to address

Harold Hankins Tribute

Family, friends and colleagues of Harold Hankins, Principal and Vice-Chancellor of UMIST from 1984 to 1995 who died in May, filled the Great Hall of the Sackville Street Building on 7 October to celebrate his life in words, music and images.

Five speakers who worked closely with Harold Hankins -Professor Rod Coombs, Professor John Garside, Professor Sir Martin Harris, Tony Russell and Paddy Stephenson - paid their tributes to, and shared professional and personal reminiscences of, the man who began his career as an engineering apprentice and who was known always as "Harold", never "Professor Hankins" or "Principal".

With great affection and respect, the speakers built up a

multi-faceted portrait of Harold: as team player, collaborator with other institutions, and promoter of the wider interests of Manchester. In establishing UMIST so high in the research league tables, he made a critical contribution to enabling UMIST to come together on an equal footing with the Victoria University of Manchester in 2004 as a single great worldclass University.

As well as providing glimpses of his working life, the visual tribute pictured Harold over the years with his wife, sons, daughters-in-law, grandchildren and pets.

In his closing remarks, Paddy Stephenson, described him as "a true UMIST and Manchester man."

The texts of the speakers' tributes and the visual tribute are online at the web address below.



In remembrance of Harold, his family has set up "A Gift of Hope" Heart Fund with the British Heart Foundation. If you would like to contribute, please contact Dr Nick Hankins at nick.hankins@eng.ox.ac.uk

www.staffnet.manchester.ac.uk/profhankinslifecelebration



Forgotten treasures shed new light on Little Grey Rabbit author

Forgotten writings of best selling children's author and Manchester graduate Alison Uttley kept privately at a University of Manchester Hall of Residence and a newly discovered 1906 photograph have been published online.

The hand-written material includes a passionate suffragette poem called "argument" published in the University's women's student magazine of 1904 - itself a unique document.

They are published on the Alison Uttley Society website with a rare photograph, taken in 1906, of Manchester physicist Professor (later Sir) Arthur Schuster together with Physics department staff, other University dignitaries and Schuster's current and former students (see above).

Known to millions across the world as the author of Tales Of Little Grey Rabbit and Sam Pig – Uttley was the second woman ever to graduate in physics at The University of Manchester in 1906. She bequeathed a third of her literary income to support students at Ashburne Hall, where the documents are kept.

Ashburne Hall was founded in 1899 by as a hall of residence for women students and Uttley lived there between 1903 and 1906.The picture was found in pieces at the bottom of a drawer by retired Professor of Physics Robin Marshall from the Faculty of Engineering and Physical Sciences, who digitally reassembled the photo.

Uttley's diaries, which are kept at the University's John Rylands Library, were published earlier this year.

Research



Sparks fly as research centre opens

The National Grid Power Systems Research Centre has been officially opened in the School of Electrical and Electronic Engineering (EEE).

The Centre comprises the new Dielectrics Materials Laboratory and the Protection and Control Laboratory, both sponsored by National Grid, and will boost research into the reduction of electrical energy consumption and help the development of renewables, energy storage systems and clean technology.

The opening ceremony was attended by Christopher Murray,

Director UK Transmission at National Grid (above right), along with Acting Dean of the Faculty of Engineering and Physical Sciences, Professor Colin Bailey.

In 2002, National Grid, the owner and operator of the transmission network in Great Britain, established a strategic alliance with the University.

The University already boasts the world-class High Voltage Research Centre, funded by National Grid, which is the largest Universitybased facility of its type in the UK.

Professor Andy Gibson (above left), Head of EEE, said: "Further

investment in these two new labs by National Grid has broadened the research scope from high voltage to power systems.

"Our vision is to further strengthen the combined research capabilities of The School and National Grid to ensure Great Britain leads the world in transmission network related research.

"This will also enhance the capabilities of The University in research and in the education of the next generation of electric power engineers and scientists."

Scientists reveal new pattern in our daily clock

Our brain's daily clock encodes time in a complex pattern that was previously unknown, and not by simply increasing its activity as the day progresses, scientists have revealed.

The findings of a study published in *Science* last month turn a longheld theory on circadian rhythms on its head and mean that we may now be able to develop new drugs and approaches to tune the daily clock to treat sleep disorders and to aid recovery from longdistance flights.

Dr Hugh Piggins and Dr Mino Belle from The University of Manchester, tested mathematical predictions made by researchers at the University of Michigan. Using electrophysiology to look at neurons in the brain's daily clock, they found that there were two basic types of neurons with very different electrical properties. One type that contained a key clock gene, *per1*, was able to survive at unusually high levels of excitability that would kill most neurons in the brain. Indeed, the cells also showed a huge difference in their electricity level, or excitability, between day and night. The other type of cells had very different electrical properties and could not survive the levels of excitability displayed by the *per1* neurons.

On further examination the team found that the *per1* cells appeared to be silent during the day because they had become so excited that they could not communicate in the typical way that most brain cells do. They had a lower, more easily traced excitability level in the morning and at dusk and were only truly silent at night. This flies in the face of accepted theory.

Dr Piggins, at Manchester's Faculty of Life Sciences, explained: "These



were surprising results because the dogma of the past 25 years has been that the daily clock signals or encodes time by increasing firing rate during the day and then dropping to a very slow rate, signalling intermittently, during the night. It doesn't do that at all, which is even more satisfying – I was part of the same group that believed this.

"We now plan to see if there are clock-like cells in other parts of the brain. It's possible we will see this pattern of activity elsewhere."

HPV vaccine makes girls more cautious about sex

Nearly 80 per cent of girls say that having the HPV vaccine makes them think twice about the risks of having sex, according to a study by University of Manchester researchers.

The survey – the first to focus on girls' views of the vaccine rather than their parents' – showed that, despite speculation that the vaccine could make girls more likely to start having sex younger, it highlighted the risks of sex for the overwhelming majority.

The study, published in the *British Journal* of *Cancer*, also revealed that the support of parents is crucial to the success of the vaccination programme – of the girls whose parents refused the vaccine, 42 per cent actually wanted it. And 10 per cent of those who were vaccinated didn't want it.

Study author Dr Loretta Brabin, who is based in the School of Cancer and Imaging Sciences, said: "This is the first insight into how a girl decides whether the vaccine is important to her and who influences her decision.

"Talking to their parents was massively influential on the girls, and mums and dads will play an important role in maintaining the success of the programme so far.

"The thing that put girls off the most was fear of needles and how much it would hurt.

"Some girls had also heard rumours about side-effects, which had filtered down from the media and their parents and had been exaggerated along the way.

"Interestingly, media suggestions that the vaccine could make girls more likely to start having sex at a younger age hadn't affected them. In fact, the vaccine actually made them more aware of the risks of sex."

The researchers questioned over 500 12 and 23 year olds who had been offered the vaccine in a study in Manchester before the vaccine was available nationally.

Although 79 per cent of girls said the vaccine reminded them of the risks of sex, 14 per cent said they might take more sexual risks because of it.

Nearly four in five girls said they discussed the decision to have the vaccine with their parents. Ninety-three per cent of girls said having the vaccine shows that you are serious about your health and 54 per cent felt the jab was very important to them.

Research

Early warning system could keep lights on

Researchers are developing 'early warning systems' that could prevent power blackouts in the UK.

Professor Vladimir Terzija and colleagues in the Electrical Energy and Power Systems (EEPS) Group are working on an intelligent monitoring system that can detect potentially serious problems with the electricity network at an early stage.

With energy networks expanding and becoming ever more complex and unpredictable, an overload of the UK's power system could result in blackouts – which could cost the UK millions of pounds in lost productivity.

By integrating monitoring technology into the network together with fast communication links, an instant snapshot of the way electrical energy is flowing through the network can be seen.

Professor Terzija and his team, based in the School of Electrical and Electronic Engineering (EEE), have successfully integrated this technology monitoring the state of the transmission network in the Manchester area into a Europe-wide Area Monitoring System.

Professor Terzija said: "The stability of power networks is becoming an increasingly important issue, particularly with the UK Government's aim of producing 30 per cent of our electricity from renewable sources of generation by 2020."

"This is going to mean a wider variety of energy sources feeding into the UK network – and real time wide area monitoring of electricity flows and the state of the power system will be essential in providing early warning of potential network stresses and potential catastrophic blackouts."



'Blue Stonehenge' discovered

Archaeologists have released an artist's impression of what a second stone circle found a mile from Stonehenge might have looked like.

The drawing shows the sensational discovery of "Blue Stonehenge" by a team led by archaeologists from Manchester, Sheffield and Bristol Universities on the West bank of the River Avon in September.

Professor Julian Thomas, from The University of Manchester and a co-director of the Stonehenge Riverside Project, said the monument was a circle of bluestones, dragged from the Welsh Preseli mountains, 150 miles away around 5,000 years ago.

However, the stones, he said, had since been since removed, leaving behind nine holes – part of a circle of 25 standing stones.

The new stone circle is 10m (33 ft) in diameter and was surrounded by a henge – a ditch with an external bank.

The standing stones marked the end of the Avenue that leads from the River Avon to Stonehenge, a 1¾-mile long processional route constructed at the end of the Stone Age - or the Neolithic period.

The discovery may confirm if the Stonehenge Riverside Project's theory that the River Avon linked a 'domain of the living' – marked by timber circles and houses upstream at the Neolithic village of Durrington Walls (discovered by the Project in 2005) – with a 'domain of the dead' marked by Stonehenge and this new stone circle.

The team hope to radiocarbon date antler picks found on the site – to provide more precise dates – to reveal if the circle was built when another 56 Welsh bluestones were erected at Stonehenge itself - in the decades after 3000 BC.

Professor Thomas, said: "The implications of this discovery are immense.

"It is compelling evidence that this stretch of the River Avon was central to the religious lives of the people who built Stonehenge.

"Old theories about Stonehenge that do not explain the evident significance of the river will have to be re-thought."

Virtual solution to driving phobias

Nervous drivers are being helped to overcome their road phobias by donning Cyclops-style goggles that transport them to a threedimensional virtual world. Researchers at The University of Manchester have recruited volunteers with a variety of driving phobias to test whether virtual reality can be used alongside conventional



psychological therapies to help tackle their fears.

The Virtual Reality Exposure Treatment (VRET) will allow participants to drive on virtual roads and confront their fears, whether they might be driving over bridges, overtaking slowmoving traffic or taking to the motorway or dualcarriageway.

"Phobias may develop from a real-life event but the levels of anxiety and avoidance that results becomes wholly disproportionate to the incident that led to the phobia and can become a major disruption to the way people lead their lives," said Caroline Williams, who will be carrying out the research in Manchester's School of Psychological Sciences.

"A fear of driving, whether it has developed following a road traffic accident or for other reasons, can escalate into a situation where individuals are too scared to drive at all.

"The advantage of using VRET is that it can be carried out in a safe environment rather than on real roads."

Ms Williams added: "Many of our volunteers have found it difficult to get treatment for their phobia through the NHS and, as a result, have been untreated for many years. The virtual scenario will allow volunteers to come to terms with and challenge their own fear in a safe and controlled environment. We hope this will result in less resistance to treatment, increased awareness of the need for such treatments and may even reduce the amount of time people spend in therapy due to its efficiency.

"Future studies could use the virtual treatment to tackle other phobias which could mean a major breakthrough in this type of therapy; the possibilities could be endless."

The research, which is being led by Professor Nick Tarrier, has been funded by the European Union.

Physicist gets buzz from better bee behaviour model

A theoretical physicist has paved the way for better research into how honey bees choose where to live.

Dr Tobias Galla has used methods from statistical physics to mathematically 'solve' a computer model developed by other researchers, which shows how a swarm of honey bees collectively decide on a new home and accurately pick the best.

In February 2009 a research paper by other researchers reported on a computer-based model showing that bees' remarkable reliability in picking the best nest site stems from a sophisticated interplay of individual and collective decision making.

Now thanks to Dr Galla's mathematical description of the model, biologists will be able to

refine it, add in more factors and build a more realistic picture of the behaviour of bees.

Dr Galla is interested in 'complexity science', a relatively new field of research that has developed in the last 15 years.

The scope for the application of theoretical physics to modern society is not always immediately obvious.

But physicists seek to describe and understand the behaviour of very small, individual 'agents' – such as molecules and atoms – in relation to a collective outcome.

Complexity science builds on this knowledge and understanding, and has been successfully applied to models of economics, to study financial markets, traffic management and social phenomena like crowd



disasters, spreading of rumours and opinions, as well as models of decision making and learning.

Simulations incorporating statistical physics also have the potential to help build better models in biology, to understand how diseases spread or what controls blood pressure.

Dr Galla is part of a group of physicists in Manchester who meet regularly with social scientists to discuss potential collaborations – and it was from these meetings that his latest paper arose.



Science fiction should be science fact, says top author

Novelists and scientists have been brought together to create a collection of short stories which incorporates the latest science.

Novelist Geoff Ryman, who is a senior creative writing lecturer at The University of Manchester, paired off literary colleagues with scientists at Manchester, Liverpool and Strathclyde Universities to produce `*When It Changed'*.

Ryman founded Mundane Science Fiction in 2002 in a move to encourage science fiction stories to focus on action which takes place on or near to Earth, involving plausible uses of technology and science. But this latest venture goes beyond that.

Ryman, who is based at Manchester's The Centre for New Writing said. "We wanted to go out and locate what is fresh and new in the sciences and give writers a chance to work with researchers to come up with different, contemporary themes.

The 14 authors include Patricia Duncker, Ken MacLeod, Liz Williams as well as Ryman himself. Scientific collaborators from The University of Manchester include Professor John Harris from and Dr Tim O'Brien from the Jodrell Bank Centre for Astrophysics.

Professor Steve Furber of the School of Computer Science contributed to the book, in a collaboration with writer Liz Williams on a story called Enigma.

It is based on an imagined conversation on artificial intelligence between former University of Manchester mathematician Alan Turing and philosopher Ludwig Wittgenstein.

Professor Furber, who is based at The School of Computer Science, said: "Turing thought that computers might lead rapidly to the creation of artificial intelligence, but it's proving to be much more difficult than that. However, we are now within sight of computers powerful enough to model substantial parts of the human brain.

"In my own work, I am developing chips for a computer which will be able to carry out brain modelling and similar tasks. This work, or perhaps similar work elsewhere, may one day give us the insights needed to fulfill Turing's vision of intelligent machines."

Profile



Sulston's Sequence

Working with a worm one millimetre long for 25 years would not for most of us seem to promise much, let alone hold the key to understanding the make-up of mankind. But that worm had 1,000 cells and John Sulston saw the possibilities in deciphering them. His persistence certainly paid off.

He worked on the biology of the worm, or nematode to give it its full title, Caenorhabditis elegans, studying its cell lineage and its genetics. His work in the field later resulted in his being awarded, along with his Cambridge colleagues Sydney Brenner and Bob Horvitz, the Nobel Prize for Physiology or Medicine.

That was in 2002, by which time ironically he had moved on, turning his attention to the much bigger task of sequencing the human

genome, not 1,000 cells but 3000 million

pairs of nucleotides, the key to how animals work. He was in at the beginning of genomics, Founder Director of the Wellcome Trust Sanger Centre, where one third of the sequencing task was completed, from 1992 to 2000.

This had grown out of a collaboration between his research group at Cambridge and that of Bob Waterston in St Louis, Missouri, building a map of the nematode genome and leading to the seminal publication of the nematode DNA sequence in 1998. Mapping the genome - ordering pieces of DNA and storing them in an accessible way – opened up a system which had previously been obscure. "In the early 80s scientists were laboriously exploring the system, but by the late 80s you could find what you needed in three weeks rather than three years," he says.

He has a passion for collaboration, for opening up knowledge and making research findings freely accessible to all. And, in turn, that gives other people the opportunity to contribute for the greater good. He believes in sharing information, translating science for the public, keeping commercial exploitation under control when it threatens to commandeer knowledge for profit.

His book, *The Common Thread*, written with Georgina Ferry and published in 2002, is a very accessible account of the science, politics and ethics of the human genome project.

All in all then, there could not be anyone more fitting than Professor Sir John Sulston FRS to chair the University's Institute for Science, Ethics and Innovation (iSEI), which aims to contribute to "Building a better future for humanity". Established in 2007, the iSEI is examining the role and moral responsibilities of science, technology and innovation in society, and weighing the ethical issues that new discoveries increasingly generate.

A particularly important concern is understanding the ethical basis of the transition process for new scientific and technological developments, from discovery, through proof of principle, to the clinic or the marketplace – and the role of regulation.

Fortuitously, he and Professor John Harris, a trailblazer in the field of medical ethics and Director of the Institute, came to know each other as members of the Human Genetics Commission. There they shared a common concern for public understanding and, reporting back to ministers, for improving policy.

"I welcome the opportunity to be involved with the new Institute, which reflects my own concerns," he says. "The most important thing for me now is to try to be part of this drive to make sure that scientific discoveries are translated into action properly, as part of a civilised society."

For a man who has reached the scientific heights, John Sulston is remarkably modest – informal, affable, with a ready sense of humour and casual self-deprecation.

He always knew he was going to be a scientist – the question was eventually: which science? "Even as a small boy, I was interested in taking things apart, from biology to electricity," he says."I enjoyed investigation."

Born in 1942, he was brought up in Rickmansworth. His father was a C of E priest – "I moved away from belief during my adolescence" – and his mother a teacher. At school, he was drawn to biology – "I don't know why". But when he went up to Cambridge (Pembroke College, of which he is now an Honorary Fellow), he read Chemistry. He got a 2:1 "with a bit of a struggle". But then he had spent a lot of his time in the theatre, as a technician.

A 2:1 was "good enough in those days" to do postgrad work. "I was uncertain whether to do that or not – I was never much of a book person." But he did stay on, working in the Chemistry lab with Colin Reese. "I loved it," he says. "We were a tight-knit group, doing bench science and devising ways to join nucleotides into chains."

John was, as he puts it, "very lucky". He noticed an extra spot, thanks to working with inferior equipment. "Everyone doubted me, because using better equipment the spot disappeared," he says. He was prepared to stand his ground and persevere, with the result that at the end of his first year he published a paper describing the new compound he had discovered.

"I tend to be messy and disorganised, but things turn up," he says. "Sometimes you discover a line and you just have to follow it and stick with it." His "line" was the worm. "The cell lineage was crucial," he says. "I was lucky." Well, as we know, his work is rather more than that.

After a postdoc spell in California, working with others on the origin of life itself, he returned 40 years ago to Cambridge, to the Medical Research Council Laboratory of Molecular Biology, one of the greatest centres of DNA research, where those other Nobel Laureates, Watson and Crick, were at work.

As his research developed, his "great collaborator" was Bob Waterston in St Louis.

After working together for some years, they got "sucked into" the human genome project in 1990, and helped push the venture through to completion.

And it was during that period, in 1998-2000, that he had the seminal experience of fighting for the freedom of information against commercial commandeering which so drives him today and informs his role as iSEI Chairman. There was a famous patent challenge.

The US company Celera, linked with the Perkin-Elmer instrumentation company, whose equipment John and his team were using, tried to tie up the human genome information for commercial exploitation. It was a hard battle, but he and his collaborators were committed to open access – and they won.

"Their approach was a gross abuse of knowledge," he says. "It goes on all the time. People aren't satisfied with the golden eggs laid by the goose – they want to own the goose. I think that geese should be free, looked after and celebrated."

As he refers to in this year's Foundation Lecture (see page 3), he has a clear vision of the role of the University in society, translating science for the people, introducing more ethics into the delivery, moderating the vital links with industry, accepting a more democratic responsibility for transferring discovery into products.

He has drawn a diagram showing how curiosity and social needs lead through discovery to knowledge, understanding and application and the wider culture. But, importantly, the application can be harmful as well as good. And that is where the ethics come in. Funding, whether it be public or charitable or private, needs to recognise all endeavour.

"We must be able to fund people who have no certain positive outcome to their research," he says. "The trouble is that we live in a beancounting age. We have gone too far in the free market way."

Who would have put money on the worm all those years ago?

CV

Name

Professor John Sulston

Position

Chair of the Institute for Science, Ethics and Innovation at The University of Manchester (iSEI)

1966-69 Postdoctoral fellow at the

Education

1963	B.A. University of Cambridge, UK
1966	Ph.D. University of Cambridge, UK

Career History

1900 09	Salk Institute for Biological Studies, San Diego, CA
1986	Elected to the Royal Society
1996	Darwin Medal of the Royal Society
1992-00	Director of the Sanger Centre, Cambridge, UK
1998	Collaboration between the Sanger Centre and Bob Waterston's group in St Louis, Missouri, resulted in the publication of the nematode DNA sequence.
2001	Knight Bachelor in New Year's Honours list
2002	Awarded the Nobel Prize for Physiology or Medicine with Sydney Brenner and Bob Horvitz for work in understanding the development of the Nematode (worm) Caenorhabditis elegans.
2002	Publishes 'The Common Thread: a story of science, politics, ethics and the human genome' written with Georgina Ferry
2007	Chair of the Institute for Science, Ethics and Innovation at The University of Manchester (iSEI)

What's On

Music and Drama at Manchester

Saturday 7 November, 7.30pm, £9/£6/£3 The University of Manchester Brass and String Orchestras

Sunday 8 November, 7.30 pm, £10/£6 Stockport Youth Orchestra Charity Concert in aid of St. Ann's Hospice

Thursday 12 November, 1.10pm, FREE Richard Whalley - Piano

Friday 13 November, 1.10pm, FREE **Opera Scenes**

Saturday 14 November, 7.30pm, £9/£6/£3 The University of Manchester Symphony Orchestra

Tuesday 17 November, 7.30pm, £12/£8/£3 **Quatuor Danel Weinberg Cycle: Quartets** 1. 2 and 3

Wednesday 18 November 1.10pm, FREE Quatuor Danel Weinberg Cycle: Quartet No 4

Thursday 19 November, 1.10pm, FREE Quatuor Danel Weinberg Cycle: Quartets 5 and 6 Thursday 19 November, 2.30pm, FREE

Quatuor Danel Seminar Thursday 19 November, 7.30pm, £12/£8/£3 **Quatuor Danel Weinberg Cycle: Quartets** 7,8 and 9

Friday 20 November, 1.10pm, FREE Quatuor Danel Weinberg Cycle: Quartets 10 and 11

Friday 20 November, 7.30pm, £12/£8/£3 Quatuor Danel Weinberg Cycle: Quartets 12, 13 and 14

Saturday 21 November, 11am, £12/£8/£3 Quatuor Danel Weinberg Cycle: Quartets 15, 16 and 17

Tuesday 24 November, 7pm, FREE We Know We Got Soul - Sawn-Off Opera

Tuesday 24 November, 7.30pm, £6/£5/£4 Vaganza and RNCM New Ensemble Joint Concert No.1

Wednesday 25 November, 1.15pm, FREE University of Manchester Brass Ensemble and Vaganza Brass

Thursday 26 November, 3pm, FREE Vaganza

Thursday 26th November, 4.15pm, FREE Peter Maxwell Davies in conversation

Thursday 26 November, 7.30pm, £6 Vaganza and RNCM New Ensemble Joint Concert No.2

Friday 27 November, 1.15pm, FREE MANTIS

Saturday 28 November, 7.30pm, £9/£6/£3 The University of Manchester Wind Orchestra Tuesday 1 December, 7.30pm, £9/£6/£3

Ad Solem – University of Manchester Chamber Choir

Thursday 3 December, 1.10pm, FREE Psappha

12

Friday 4 December, 1.10pm, FREE The University of Manchester Baroque Orchestra Saturday 5 and Sunday 6 December, 7.30pm, £12/£8/£5 The University of Manchester Chorus and

Symphony Orchestra, Whitworth Hall

The Martin Harris Centre for Music and Drama Bridgeford Street, Manchester M13 9PL 0161 275 8951/8950

email boxoffice@manchester.ac.uk www.manchester.ac.uk/martinharriscentre

Chaplaincies St Peter's House Chaplaincy

11am Holy Communior 12.15pm Bible Study 12.45pm Lunch (1st Sun) 6.30pm Evening Worship (term-time only) FOYER 10am – 5pm An area where students and staff can relax and meet friends. A tea/coffee machine is available. RC Chaplaincy Avila House

Mass Times (term-time only) Sun, 7pm (in the Holy Name Church) next door to Chaplaincy Mon, Wed, Fri, 6pm in the Chaplaincy Chapel Tues, Thurs, 12.15pm in the Chaplaincy Chapel The Jewish Student Centre and Synagogue

Hillel House, Greenheys Lane 0161 226 1139 Email rabbiyy@hotmail.com www.rabbiyy.com

Muslim Chaplaincy

South Campus Mosque, McDougall Centre Jammaat (Group Prayer) Daily Juma Prayer Friday 1.15pm Honorary Imam: Imam Habeeb, h_chatti@hotmail.com North Campus Mosque, Basement of Joule Library, Sackville Street Building Jammaat (Group Prayer) Daily Juma Prayer Friday 12.30pm

The role of the Volunteer Muslim Chaplain is to provide pastoral support, guidance and a listening ear to Muslim staff and students

Chaplains' email: a.sami99@yahoo.co.uk, mbm1411@hotmail.com, assia_shah61@yahoo.co.uk, hawwah@hotmail.com

International Society

VVIIVIEN IN	11.5	
Sat 7 – Sun 8 Nov Sat 7 Nov	Overnight Visit to Bath and Stonehenge Lake District visiting Windermere and Ambleside	
Sun 8 Nov	Blackpool and Illuminations	
Sat 14 Nov	Oxford with Guided Tour	
Sat 14 Nov	Whitby	
Sun 15 Nov	Chester with Guided Walking Tour	
Sat 21 Nov	Liverpool with Guided Coach Tour	
Sun 22 Nov	Peak District visiting Chatsworth House and Bakewell	
Sat 28 Nov	Stratford-upon-Avon	
Sun 29 Nov	York's St Nicholas Fayre Market	
Opening hours Mon-Fri 9.30am – 7pm (during term time) Mon-Fri 9.30am – 5pm (during vacation) Small World Café opening hours Mon-Fri 11am – 3pm		
327 Oxford Road (next to Krobar) 0161 275 4959 email int.soc@anchester.ac.uk www.internationalsociety.org.uk		



Gig Guide

MANCHESTER	ACADEMY 1, 2 and 3
Wed 4 Nov	Shinedown - £12 Adv
	Gotthard – SOLD OUT
Thurse C. Maria	W Brown - £7.50 adv
Thurs 5 Nov	Just Jack - £12.50 Adv
FILOIVOV	Sham 69 - f11 Adv
	Mew - £12.30 Adv
Sat 7 Nov	Yo La Tengo - £14 Adv
	30H!3 - £10 adv
Curr O Maria	Hanky Park (Sninny) - 15 Adv
SUN & NOV	The Brand New Heavies - £16.50 Adv
Med 11 Nov	New Reputiful South + Sandi Thom -
Wed 11100	£20 Adv
Thur 12 Nov	Mr Hudson + Speech Delle - £10 Adv
	Jonathan Coulton with Paul
5:40.04	and Simon - £16 Adv
FTI 13 INOV	Gun - f14 Adv
	Caliban & Emmure - £12 Adv
Sat 14 Nov	Alice in Chains - £22.50 Adv
	Ezio - £12.50 Adv
	Colin Hay - £12.50 Adv
Sup 15 Nov	Donestars - f12 Adv
Mon 16 Nov	The Flaming Lips - £20 Adv
	Breed 77 - £9 Adv
Tue 17 Nov	65 Days of Static - £10 Adv
	Shred Yr Face Tour 3 - £12 Adv
Wed 18 Nov	Elliot Minor - £12 Adv
Thur 19 Nov	Mariachi El Bronx - f10 Adv
Fri 20 Nov	Slayer - £25 Adv
	Shanty Town - £6 Adv
	Alabama 3 - £18 Adv
Sat 21 Nov	Gen Numen 620 Adv
Satzinov	lan McNabb - £15 Adv
	Gong - £18.50 Adv
Sun 22 Nov	Jackie Leven - £12 Adv
Mon 23 Nov	The Butterfly Effect – Adv £7.50
Tuos 24 Nov	Skunk Anappia £19.50 Adv
1005 24 1101	We Are The Ocean - £8.50 Adv
	Lisa Hannigan - £15 Adv
Wed 25 Nov	Mick Taylor - £17.50 Adv
Thurs 26 May	Ine Answer - £13 Adv
Thurs 26 NOV	Oceansize - f11 Adv
Fri 27 Nov	Dio - £20 Adv
	The Alarm + The Beat - £18.50 Adv
	The Paris Riots - £6 Adv
Sat 28 Nov	The Complete Stone Boses - £15 Adv
581 20 1101	Napalm Death - £10 Adv
	Whole Lotta Led - £12 Adv
	New Model Army - £17.50 Adv
Mon 30 Nov	Gossip - £16 Adv The Living End - £12 50 Adv
Tues 1 Dec	Fat Freddy's Drop - £17.50 Adv
Wed 2 Dec	Taste of Chaos: Killswitch Engage
	& In Flames – £20 Adv
Fri 4 Dec and	Shed Seven - £16.50 Adv
Sat 5 Dec	
Sun o Dec	Escape the Fate - f12 50 Adv
Tickets from:	
Ctudente! Unio	o Ovford Road

Piccadilly Box Office @ easy Internet Café (c/c) 0871 2200260 Royal Court (Liverpool) 0151 709 4321 (c/c) **Students' Union** Oxford Road, Manchester, M13 9PL 0161 275 2930 www.manchesteracademy.net



The Manchester Museum

SPECIAL EXHIBITIONS

The Evolutionist

A Darwin Extravaganza of events and exhibitions including *Charles Darwin: Evolution of a Scientist*. FAMILY ACTIVITIES

Big Saturday

Sat 21 Nov 11am-4pm Evolution Revolution Darwin themed family fun day with object handling, storytelling, talks and tours.

Sat 5 Dec 11am-4pm Polar Day

A day bursting with polar activities for all the family! TALKS AND TOURS

Weds 11 Nov 3-5pm

Community Archaeology in the Museum With Dr Lindy Crewe, The University of Manchester

Fri 13 Nov 6-7.30pm Day School talk:

The day the time barrier was broken Review what we know about our earliest beginnings with Professor Clive Gamble.

Sat 14 Nov

Day school: From Darwin to DNA: exploring Please contact Phyllis on 0161 275 2643 or e-mail museum@manchester.ac.uk for details, £40

Tues 24 Nov 1-2pm

On the Origin of Species. A celebration Lecture celebrating the 150 anniversary of the publication of On the Origin of Species by Charles Darwin. Tues 1 Dec 6-8pm

Ideas Café: Darwin's work: use and abuse Discover how Darwin's scientific discoveries were used and abused to support political agendas.

Weds 9 Dec 3-5pm Showcase Seminar:

The psychodynamics of museums With Myna Trustram, Renaissance North West.

Find out more about events in the Museum at www.manchester.ac.uk/museum

Opening hours Open: Tues-Sat 10am - 5pm Sun-Mon (and Bank Holidays) 11am - 4pm FRFF Admission

The Manchester Museum Oxford Road, Manchester 0161 275 2634

www.manchester.ac.uk/museum

Centre for New Writing

Monday 9 November The John Thaw Studio Theatre, 6pm, £5/3 Vona Groarke and George Szirtes

Vona Groarke's new book *Spindrift* is a PBS Recommendation for Autumn 09 as is George Szirtes' The Burning of the Books.

Monday 7 December

The Cosmo Rodewald Concert Hall, 6.30pm, £5/3 Martin Amis Public Events: Literature and Ageing In these hugely popular public events, Martin Amis and guests discuss how literature faces up to major of the day.

Website: www.manchester.ac.uk/arts/newwriting

Online journal: www.themanchesterreview.co.uk The Martin Harris Centre for Music and Drama Bridgeford Street, Manchester M13 9PL 0161 275 8951/8950

email boxoffice@manchester.ac.uk www.manchester.ac.uk/martinharriscentre

John Rylands Library (Deansgate)

EXHIBITIONS

A Natural Selection: The Life and Literature of Charles Darwin

Charles Darwin Charles Darwin is arguably one of the greatest scientists of all time, and this year marks a double Darwin anniversary - the bicentennial of his birth in 1809 and 150 years since the publication of his most famous work, On the Origin of Species, in 1859. A Natural Selection is an exploration of Darwin's life and whitehold works published works

Mapping Manchester: Stories of the City Maps can tell us many different stories about the places where we live and work. This exhibition shows how mapping is particularly ingrained into urban life; it demonstrates how maps work and how they have evolved over time - reflecting changes in technology, society and economic conditions.

Collection Close-Up with Library Tour every third

With one of our curators, enjoy a closer look at material from the Library's world famous collections and find out more about this magnificent building. EVENTS

Sat 7 November and Tues 8 December, 12-1pm **Unusual Views: Library Tours for Photographers** Take the opportunity to photograph the Library building from spectacular viewpoints not normally open to the public! Guided by Library Staff you will be given unique access to the galleries hidden gems. Tickets £2.50, contact Visitors Services on (0161) 306 0555 or jrl.events@manchester.ac.uk

Sun 22 November, 12-2pm Sketching Sundays

Would you like to spend time drawing in the Library? Take inspiration from the decorative details and architectural splendour of the building or choose an object on display. FREE

Public opening hours Mon 12-5pm, Tues-Sat 10am-5pm, Sun 12pm-5pm Reader opening hours Mon-Wed 10am-5pm, Thurs 10am-7pm, Fri-Sat 10am-5pm

FREE ADMISSION

The John Rylands Library 150 Deansgate, Manchester, M3 3EH 0161 306 0555 email jrl.visitors@manchester.ac.uk www.manchester.ac.uk/library

Jodrell Bank

Throughout the year you can view the telescope from many angles on the Observation Pathway, take a Journey to Mars or tour the Solar System in the 3D theatre. You can also discover the history of Jodrell Bank in the small indoor exhibition area or take a walk in the tranquil setting of the 35 acre Arboretum. Sunday 29 November, 11am

Behind the Scenes with an Astronomer

Join a Jodrell Bank Astronomer on a tour of the Observatory, taking in the other telescopes Jodrell has and the Control Room followed by lunch. Early booking is essential. Tickets £25.00. SOLD OUT

Tuesday 1 to Wednesday 23 December Christmas at Jodrell

Visit Jodrell Bank, take a journey to Mars and then enjoy a two or three course Christmas lunch. www.jodrellbank.manchester.ac.uk/visitorcentre/ events/2009/christmas.html

Please call 01477 571339 to book tickets or to get further information.

Jodrell Bank Observatory Visitor Centre Macclesfield, Cheshire 01477 571339

www.manchester.ac.uk/jodrellbank/viscen

The Whitworth Art Gallery DISPLAYS/COLLECTIONS

The American Scene: Prints from Hopper to Pollock: A British Museum Tour

Printmakers in the United States between 1900 and 1960 produced some of the most exciting, original and defining images of modern American life. This exhibition pictures a time of remarkable social and political change. Featuring 106 by 60 artists, including works by John Sloan, Edward Hopper, Josef Albers, Louise Bourgeois, Franz Kline, Willem de Kooning and Jackson Pollock.

The Manchester Indian: Thomas Wardle and India

This exhibition celebrates the centenary of the death of Sir Thomas Wardle (1831-1909). Still perhaps best known for his collaboration with William Morris, the exhibition focuses on Wardle's efforts to reinvigorate the silk industry in India as well as the impact that India had on his work.

Deep Rooted, How Trees Shape Our Lives What do trees mean to you? Drawing from the

Whitworth's internationally important collection of watercolours and drawings, this exhibition explores how trees and woodland shaped our lives.

The Complete Roberta Breitmore:

Lynn Hershman Leeson

In San Francisco in the mid-Seventies, Lynn Hershman Leeson created Roberta Breitmore and performed this persona as a work of art over a four year period, documenting it through artifacts, photography, film and sound. This extraordinary body of work, which raises questions about the complexities of identity and the nature of the work of art, has been purchased by the Whitworth in its final edition and is shown here for the first time in its entirety.

EVENTS

Wednesday 4 November, 6pm Black GIs in Britain in the Second World War Documentary Film and commentary by Alan Rice

Tuesday 17 November, 6pm American Women and the Cold War

by Helen Laville

Wednesday 2 December, 6pm Six Myths of 'On the Road' by Dick Ellis

Tuesday 8 December, 6pm **Reflections on The American Scene** by Douglas Tallack

Every Sunday 1.30pm - 3.30pm, Family Friendly, Free

Colourful Sundays Drop into the gallery any Sunday afternoon for free and fun creative activities at Colourful Sundays. Suitable for all ages no need to book.

Every Tuesday 11am -12.30pm, Free Tuesday Talks

Each week an artist, thinker or critic talks about their work, influences and inspirations.

FILMS

Friday 6 November, 6.15pm, £6 on the door (Students Free)

The Grapes of the Wrath

Director: John Ford, Starring: Henry Fonda, Jane Darwell, John Carradine (1940)

Collection Exhibitions Archive Now Online

The Whitworth's online 'Collections Catalogue' now allows you to browse and search selected exhibitions held at the Gallery over the past 10 years. Follow the link from homepage

www.whitworth.manchester.ac.uk The Whitworth Art Gallery

Oxford Road, Manchester 0161 275 7450 email whitworth@manchester.ac.uk



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2009

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Discover the Museum

150 years of evolution

On 24 November 1859, the publisher John Murray delivered, to a largely unsuspecting world, 1250 copies of Charles Darwin's On the Origin of Species by Means of Natural Selection. Modestly bound in green cloth and lacking eyecatching illustrations, it was a book to be taken seriously. This year marks the 150th anniversary of its publication.

Controversial at the time, On the Origin of Species outlined Charles Darwin's ideas about evolution and natural selection. Described as 'the single best idea anyone has ever had', it forms the basis of science and biology today. Making no attempt to explain the origin of life or the nature of human existence, it punctured the veil of concealment fostered by centuries of theological introspection. As James Hutton had done for rocks. so Darwin did for organisms: the living and the dead.

Evidence supporting Darwin's theories is all around us. Manchester's own evolution story includes the peppered moth, which rapidly evolved into a dark form during the industrial

revolution to camouflage itself amongst the sooty trees and buildings.

Throughout November, The Manchester Museum will be celebrating this important milestone in evolutionary thought with a whole host of special events. Some of these include Big Saturday: Evolution Revolution (21 Nov); the Museum's day school, with talks and lectures exploring DNA and the early beginnings of human evolution (13 & 14 Nov), and a commemorative lecture offering a modern perspective on Darwin's achievement (24 Nov).

A first edition of 'On the Origin of Species by Natural Selection' can also be viewed in the Museum's special exhibition Charles Darwin: evolution of a scientist. Published by John Murray, London in 1859, it is on loan from John Rylands Library, University of Manchester

Further information about these events and the Museum's Darwin Extravaganza can be found on the Museum's website. Part of The Evolutionist: A Darwin Extravaganza at The Manchester Museum 1 August 2009 - 30 August 2010.



www.manchester.ac.uk/museum

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www.manchester.ac.uk/library/binding

News Contact

News and story ideas Internal Communications Office tel 0161 275 2112 email uninews@manchester.ac.uk online www.manchester.ac.uk/staffnet/news Deadline 18 November 12 noon

Events Contact

MANCHESTER

Events and listings information Philippa Adshead tel 0161 275 2922 email unievents@manchester.ac.uk Deadline 18 November 12 noon

Adverts Contact

Ads Janice Drew tel 0161 275 2113 email uniads@manchester.ac.uk Deadline 18 November 12 noon

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