MANCHESTER 1824
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MANCHESTER NUCLEAR HORMONE RESEARCH APPROACH IS A U.K. FIRST

Researchers and doctors from two Manchester institutes have joined forces with pharmaceutical company GlaxoSmithKline (GSK) to launch an innovative joined-up approach to tackling chronic inflammatory disease.

The creation of the Manchester Centre for Nuclear Hormone Research in Disease is the first time academics, the NHS and industry have collaborated in a three-way approach to finding new therapies for inflammatory conditions such as asthma, chronic obstructive lung disease (COPD), and rheumatoid arthritis.

The centre will be jointly managed by Professors David Ray and Andrew Loudon from the University and the National Institute for Health Research Manchester Biomedical Research Centre (MBRC), and Dr Roberto Solari of GSK. It will focus research efforts on understanding the role of nuclear hormone receptors in inflammatory diseases and seeking to identify compounds that could help lead to new treatments.

Leading the research teams will be Visiting Professor Stuart Farrow, the newly appointed Chair in Experimental Therapeutics here at the University and the MBRC. Professor Farrow will also continue his current role at GSK, where he has been developing new medicines for lung diseases such as asthma and COPD since 2000.

An external advisory board with industrial and academic representatives will also provide guidance on research strategy.

Initial work will focus on several specific projects which together address the broader aim of understanding the biology of chronic inflammation, what causes it to persist and the best options to develop new therapies.

Left to right: Professor David Ray, Professor Stuart Farrow and Professor Andrew Loudon

"This is a tremendously exciting development, bringing together industry expertise in drug discovery with local research and clinical expertise and access to clinical research facilities," said Stuart Farrow. "Harnessing the capabilities of outstanding researchers, the expertise within the NHS and GSK's considerable resources creates a very powerful collaboration. Our aim is to speed up the discovery and development of new medicines to treat these major inflammatory diseases."

David Ray, Deputy Director of the MBRC, added: "Having already worked with Stuart – who is a widely respected researcher in this field - we're delighted he's involved in the programme. The free interchange of ideas, facilities and research staff between the various GSK sites world-wide and the Manchester BRC will also maximise training opportunities for young researchers, and the rapid implementation of new ideas. Ultimately we hope this will translate into major benefits for patients affected by these debilitating conditions."

The new programme will initially run for three years, and the team is also applying for additional industrial and Medical Research Council funding to extend the scope of the collaboration.

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NEW ASSOCIATE DEAN FOR RESEARCH

Cay Kielty took over as the Faculty's Associate Dean for Research in autumn 2010. The overarching remit of this exciting role is to provide strategic leadership and management of the Faculty's research portfolio and staff. Cay chairs the Faculty's Research Team (RT) which comprises the 12 Research Group leaders, 6 Section Heads and other Associate Deans.

RT deals regularly with a wide range of key issues including Fellowship recruitment, PhD studentships, research income, management of the Faculty's superb core facilities, equipment bids, cross-Faculty and international collaborations, and researcher support and training. RT also provides invaluable support in defining the Faculty's specific priorities and targets, and in advancing the strategies for their delivery. We are currently revising our Strategic Initiatives to ensure that the Faculty is ideally placed to address key global needs and challenges such as biotechnology and healthy ageing.

Cay also represents the Faculty on the University Research Group which monitors institutional progress towards Research Excellence Framework (2014) and manages institutional activities such as the e-Scholar repository, and on the recently convened Research Strategy Group which develops University Research Strategy and leads on major cross-Faculty interdisciplinary funding initiatives. Whilst research in the current financial landscape presents challenges, the Faculty is exceptionally well placed with our outstanding researchers and facilities to excel in the years ahead.

CF TRUST FUNDS NEW SCIENTIFIC RESEARCH INTO CYSTIC FIBROSIS

The Cystic Fibrosis Trust has awarded £188,000 to four new research projects aimed at benefiting those with Cystic Fibrosis (CF), one of the UK's most common life-threatening inherited diseases.

Four awards were made in total, the highest value grant of £75,000 was awarded to Professor Bob Ford, from the Faculty, for a project aimed at studying the activity of the CFTR protein by understanding how it is built and how it works. CFTR (Cystic Fibrosis transmembrane conductance regulator) is the protein that controls the movement of chloride through the lining of the cells. It is the faulty CFTR that causes the problems in Cystic Fibrosis by not working at all, or not working enough.

These four new projects will be running alongside the other research currently funded by the CF Trust into areas such as gene therapy, early detection of lung disease in infants, transplantation, depression in people with CF, inflammation and drug treatments.

John Devlin, spokesperson for the Cystic Fibrosis Trust said: "We spend around £4 million on medical research every year which aims to benefit people with CF in the near future. We are delighted to be funding this research which is will help us find new ways of treating those with Cystic Fibrosis."

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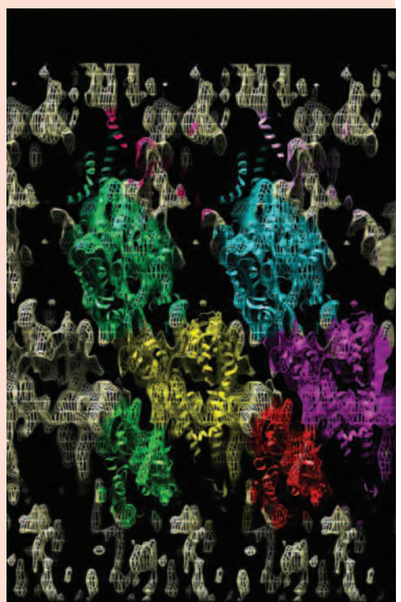

Structural data for CFTR crystals

FLS RESEARCH GRANT SUCCESSES

Research income remains extremely strong within the Faculty of Life Sciences despite the current adverse financial climate. In the last four months alone, FLS academics have been awarded an impressive 38 research grants totalling over £7.7 million.

Research grant successes include a £1 millon award from the Wellcome Trust to Professor Andy Sharrocks and Dr Shen-Hsi Yang for their research into the molecular mechanisms of eukaryotic transcription factor function. Other awards include an MRC grant to Drs Matthew Hardman and Sheena Cruickshank to study wound healing in the elderly, two BBSRC grants for cellular studies to Drs Christoph Ballestrem and Andreas Prokop, and Dr Martin Lowe, and two Arthritis Research UK grants totalling over £400,000 to Professor Ray Boot-Handford and Dr Mike Briggs, and Professor Tony Day and Dr Caroline Milner respectively. Awards have also been obtained from the Wellcome Trust, British Heart Foundation, Breast Cancer Campaign and the Manchester Biomedical Research Centre.

FLS academics have also been very successful in obtaining valuable awards from a number of industrial partnerships, including two with companies that the Faculty has not collaborated with previously.

NEW WELLCOME TRUST PROGRAMME GRANT ON THE HISTORY OF TRANSLATIONAL MEDICINE, 1950 - 2000

At the start of the year, work began in the Centre for History of Science, Technology and Medicine on a new, five-year Programme Grant on the history of translational medicine since 1950. The grant of £881,000 will support historical research and public engagement by a team led by Dr Carsten Timmermann and Professor Michael Worboys, with Professor John Pickstone and Professor David Thompson from Manchester's Medical School, alongside researchers Dr Rob Kirk, Dr Stephanie Snow and Dr Duncan Wilson in the Faculty of Life Sciences.

Translational medicine (TM) is a fairly recent concept – few clinicians and researchers used the term before the new millennium. A 2008 editorial in the British Medical Journal characterised it as, 'all the steps that are involved in getting a new remedy from the laboratory bench to the bedside as efficiently as possible, from basic research, through evaluation, to the clinical application and the development of practice guidelines'. TM is now centre-stage in medical research policy. However, new goals and policies are being formulated without the benefit of rigorous historical studies of how 'bench and bedside' relations have operated in recent decades.

The research will produce the first in-depth historical study of bench-clinic relations in British medical research in the second half of the twentieth century, whilst developing new methods for studying recent and contemporary history and making history available to inform policy making and implementation. Research will be focused on diseases of the brain, particularly mental disorders (Kirk), dementia (Wilson) and stroke (Snow). Our hypothesis is that interactions between laboratory and clinic were, and still are, multiple and complex, and that the emphasis on linear, unidirectional models of bench to bedside are unhelpful. An important part of the work is to develop outreach activities and training aimed at biomedical researchers, medical practitioners, health service managers, and policy makers, with the aim of communicating the 'lessons' of past experience in what is now termed 'Translational Medicine'. There will also be a range of engagement events and resources for a number of publics, especially schools and patient groups, and to encourage wide appreciation and informed appraisal of the dynamics of recent and contemporary medicine and biomedical research.

http://bit.ly/hY5OTd

MANCHESTER RESEARCHER SECONDED TO GULF OIL SPILL CASE

FLS Researcher, Dr Holly Shiels has been studying the effects of the Gulf of Mexico oil spill on large fish such as bluefin tuna and mackerel, on behalf of the US Government and is trying to assess the extent of the damage on fish populations.

The Deepwater Horizon drilling rig exploded on 20 April, killing 11 workers and causing an oil spill that soon became the worst environmental disaster in US history. The ruptured well was capped on 15 July but it is now estimated that 4.4 million barrels of crude oil have been dispersed into the sea, causing widespread damage to the environment, wildlife and the local economy.

Dr Shiels – an expert in the cardiac functioning of fish and reptiles – carried out a month-long pilot study on the Gulf of Mexico oil spill with colleagues from Stanford University. She and the team are investigating the effects of the oil, and also the dispersants used to remove it, on large pelagic fish in the area. They were commissioned by the US Department of Justice and National Oceanic and Atmospheric Administration (NOAH), a scientific agency within the US Department of Commerce focused on the conditions of the oceans and the atmosphere.

"We are trying to understand the short and long term effects of the oil spill," she explained.

"How the spill will affect the large pelagic fish is unknown. However the components that make up the oil are known to affect cardiac development in fish larvae, which is why the cardiac team was brought in. Since our findings may be used by the US Government as they pursue claims for damages, release of our results will depend upon the needs of that process. The project has been tremendously exciting."

http://bit.ly/hrkYXA

Image kindly provided by Luis Rodriguez

DAVID B SATTELLE ScD

David B Sattelle ScD, Professor of Molecular Biology, has recently joined FLS from The University of Oxford where he was Head of Neural Signalling in the MRC Functional Genomics Unit. He uses genetic model organisms (the nematode worm C. elegans and the fruitfly D. melanogaster) to model aspects of human neurodegenerative disease both to better understand disease mechanisms and to search for new therapies. In this way he hopes to expedite the rapid translation of new chemistry towards the clinic.

Models in current use mimic aspects of the pathology of Alzheimer's disease, Spinal Muscular Atrophy and Congenital Myasthenia Syndrome. His career career-long interest in neural signalling involving nicotinic acetylcholine receptor (nAChR) molecules has involved sources as diverse as simple invertebrate nervous systems and the complex human brain. He is exploring how these important 'molecular switches' function and serve as targets for new drugs benefitting human and animal health.

David sees collaborations with his neighbours in the AV Hill Building, chemists elsewhere on campus as well as links with Manchester spin-out companies as essential to achieving his research goals. He has worked at Cambridge, Harvard, MIT and UMass (Amherst) and collaborates internationally and in the UK with academic and industrial partners.

Professor Hugh Piggins, Section Head for Neuro Systems commented,

'David has remarkable energy and I am very impressed by how quickly he has set up his lab and made new connections and collaborations in Manchester. His arrival in Manchester is a real boost to neuroscience and the faculty in general.'

HIGH ARCTIC AVIAN ATHLETE GIVES LESSONS ABOUT ANIMAL WELFARE

Researchers report that an arctic relative of the grouse has evolved to cope with its extreme environment by moving efficiently at high speeds or when carrying winter weight.

This discovery is of relevance to welfare in the poultry industry where birds are bred to be heavier. Ultimately, better understanding the physiology of a natural animal model of extreme weight gain could one day lead to improving the welfare and meat yield of domesticated breeds and so contribute to preventing a future food security crisis.

Dr Jonathan Codd, who led the research team, said: "We can learn a lot from the Svalbard rock ptarmigan because it is so well adapted for life in an extreme environment – minus 20 degrees and dark all day in the winter and then light for almost 24 hours a day in the summer. Like most wild birds, they put on fat for the winter to insulate them from the cold and also as an emergency energy store. For Ptarmigans this fat can be up to 32% of their body weight in the winter.

"We are hoping that the knowledge we gain from our studies will eventually help the poultry meat industry to breed birds that can put on weight quickly but have the necessary physiological features so that they don't suffer as a result."

http://bit.ly/hrmvRq

CELL BINDING DISCOVERY BRINGS HOPE TO THOSE WITH SKIN AND HEART PROBLEMS

Professor David Garrod has revealed the mechanism that binds skin cells tightly together. This could lead to new treatments for skin diseases and heart defects. Professor Garrod said: "The outer layer of our skin (the epidermis) is only 1/10th of a millimetre thick yet it protects us from the environment and the wear and tear of everyday life. Skin is tough because it is bound together by tiny structures called desmosomes that are covered in a kind of 'glue'. People who have defects in their desmosomes can get unpleasant skin disease and have heart problems."

Professor Garrod and his team found there are several different but closely-related glue molecules within each desmosome, and each glue molecule on one cell binds primarily to another of the same type on the neighbouring cell. This seems to be of fundamental importance in locking together epidermal cells of the epidermis into a tough, resilient structure. It is an important step forward in our research, which aims to develop better treatments for non-healing wounds, other skin diseases and heart problems. The next step, said Professor Garrod, "is to understand how to make medicines that would lock or unlock the desmosomes as required".

http://bit.ly/eUmpWU

ZEBRAFISH SHOW BIRTH OF TUMOUR – AND BODY'S RESPONSE

Scientists using translucent zebrafish as a "window on cancer" have been able to see in real time how tumour cells are born – and how they immediately attract cells from the immune system.

This inflammatory response seems to both attack and aid the cancer cells and the balance between the two provides a new therapeutic target for cancer researchers. It also links cancer to the wound healing process, which may even lead to anti-inflammatory drugs being used to treat cancer patients.

Life Scientist Dr Adam Hurlstone, explained: "This is a very exciting finding. It was a huge surprise to us to see the tumour cells detected by the immune system so quickly: a cancer cell appears, gives a signal and the body's immune system is immediately alerted. The same responses of the body that stimulate wound healing also encourage cancer cells to multiply.

"In addition we have established other novel aspects: that hydrogen peroxide is the signal molecule given by both wounded and transformed pre-cancerous cells to the immune system and that the carefully choreographed response can both attack and aid cancer cells at their very birth.

"This link between wound healing and cancer gives us new therapeutic targets and potential therapies such as anti-inflammatory drugs that have already undergone clinical trial."

The study, published in PLoS Biology and funded by Cancer Research UK, was a collaboration between Dr Hurlstone, and the team of Professor Paul Martin, the University of Bristol, and researchers from Bristol and Milan.

The team studied the onset of different cancer types, including melanoma, an extremely aggressive form of skin cancer, in zebrafish larvae. Zebrafish have been used to study embryonic development for years but it is only recently that they have become a popular species for modelling disease, and notably cancer. Mutations in their genes result in the same diseases as humans, while their transparency is extremely useful for seeing the disease's progress.

Dr Hurlstone said: "We have returned to a classical concept that cancer is a wound that will not heal. Inflammation is supposed to be a good thing – it is painful but specialist cells zoom in and eat the debris and secrete factors to heal a wound. So with inflammation in cancer, is it fighting or helping the disease? The answer is both."

He added: "This study and its novel, significant findings was only possible because we used live cell imaging in the almost transparent zebrafish embryos."

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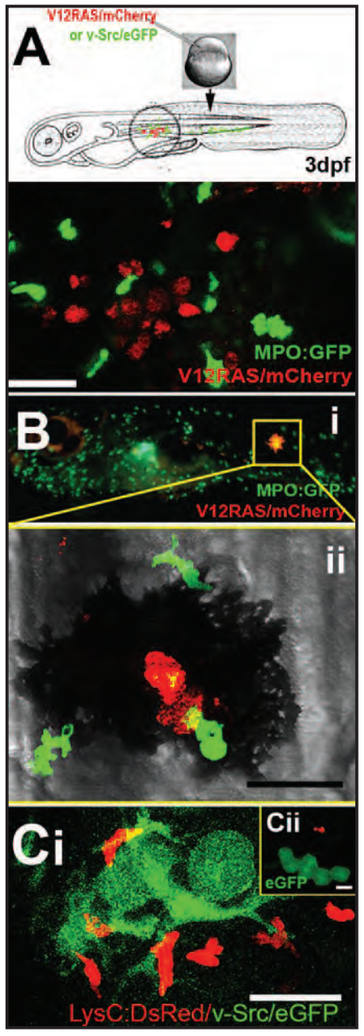
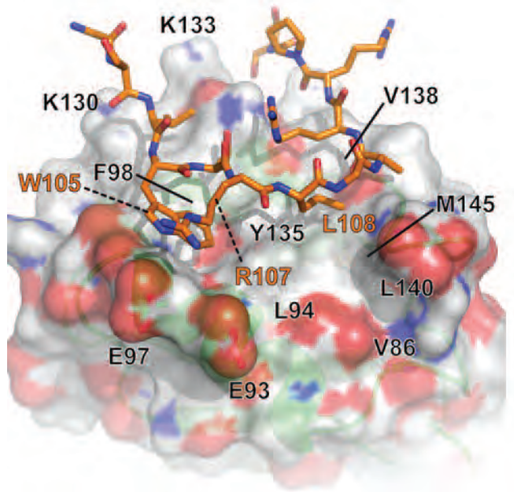


Lve imaging of leukocytes swarming around new-born cancer cells in transparent zebrafish embryos



HOW HERPES HIJACKS ITS HOST

Researchers have for the first time developed a 3D picture of a herpes virus protein interacting with a key part of the human cellular machinery, enhancing our understanding of how it hijacks human cells to spread infection.

This discovery uncovers one of the many tactical manoeuvres employed by the virus and opens up new possibilities for stepping in to prevent or treat infection.

The University of Manchester team, funded by the Biotechnology and Biological Sciences Research Council (BBSRC), have used NMR – a technique related to the one used in MRI body scanners and capable of visualising molecules at the smallest scales – to produce images of a herpes virus protein interacting with a mouse cellular protein. These images were then used to develop a 3D model of this herpes virus protein interacting with human protein. The research is published in the January edition of PLoS Pathogens.

Lead researcher Dr Alexander Golovanov, from the Manchester Interdisciplinary Biocentre and Faculty of Life Sciences, said: "There are quite a few types of herpes viruses that cause problems as mild as cold sores through to some quite serious illnesses, such as shingles or even cancer. Viruses cannot survive or replicate on their own – they need the resources and apparatus within a human cell to do so. To prevent or treat diseases caused by viruses we need to know as much as possible about how they do this so that we can spot weak points or take out key tactical manoeuvres."

The 3D model shows how the viral protein piggybacks on to the molecular machinery components inside human cells, promoting virus replication and spread of infection through the body.

"When you look at the image, it's like a backpack on an elephant: the small compact fragment of viral protein fits nicely on the back of the human protein," said Dr Golovanov.

By studying the images along with biochemical experiments using the human version of the cellular protein, the team has uncovered the mechanism by which the viral and cellular proteins work together to guide the viral genetic material out of the cell's nucleus. Once there, the genetic material can be utilised to make proteins that are used as building blocks for new viruses. The researchers have also confirmed that this relationship between the two proteins exists for related herpes viruses that infect monkeys.

Dr Golovanov added: "Our discovery gives us a whole step more detail on how herpes viruses use the human cell to survive and replicate. This opens up the possibilities for asking new questions about how to prevent or treat the diseases they cause."

Professor Janet Allen, BBSRC Director of Research, said: "This new research gives us an important piece of the jigsaw for how a particular viral infection works on a molecular level, which is great news. Understanding the relationship between a human, animal or plant – the host – and the organisms that cause disease – pathogens – is a fundamental step toward successful strategies to minimise the impact of infection.

"To study host-pathogen relationships we have to look in detail at the smallest scale of molecules – as this study does – and also right through to the largest scale of how diseases work in whole systems – a crop disease in the context of a whole area of agricultural land, for example. BBSRC's broad portfolio of research into host-pathogen relationships facilitates this well."

http://bit.ly/hX6Vj5

SOLVING THE RIDDLE

Scientists have unravelled the shape of the protein that gives human tissues their elastic properties in what could lead to the development of new synthetic elastic polymers.

Why is human tissue stretchy? Dr Clair Baldock has unravelled the shape of the protein (unsurprisingly called 'elastin') that makes tissue elastic. Elastin allows tissues in humans and other mammals to stretch, for example when arteries widen and narrow as the heart beats.

Working with colleagues in Australia and the United States, Dr Baldock used state-of-the-art techniques to reveal the structure of the main component of elastin, called 'tropoelastin'. "All mammals rely on elastin to provide their tissues with the ability to stretch and then return to their original shape," said Dr Baldock. "Elastin can do this much better than any human-made elastic."

Elastin is stretchy because tropoelastin is a curved, spring-like molecule with a 'foot' region to facilitate attachment to cells.

Stretching and relaxing experiments showed that the molecule can extend to eight- times its initial length and can then return to its original shape with no loss of energy, making it a near-perfect spring.

Dr Baldock said: "Elastics are used in applications as diverse as clothing, vehicles, tissue engineering and even space travel, so understanding how the structure of tropoelastin creates its exceptional elastic properties will hopefully enable the development of synthetic 'elastin-like' polymers with potentially wide-ranging applications and benefits."

http://bit.ly/gfSAAK

TRIGGER THAT PREPARES ANIMALS FOR THE SEASON… WHATEVER THE WEATHER

Professor Andrew Loudon and Dr Sandrine Dupre, together with colleagues at the University of Aberdeen, have shown how animals use day-length to synchronise migration, moulting, and reproduction. As the planet warms, The study looked at the primitive Soay breed of sheep, which relies on strong seasonal biology to survive in the wild on the North Atlantic island of St Kilda. Professor Loudon said: "We have now indentified that 'switch', linking the daily 'circadian clock' to the yearly seasonal clock. Our data suggest that as the climate warms, species in the high arctic may not be able to adjust their annual clock to match altered local seasons."

Animals that rely on day length as a cue may struggle to adapt as global warming affects the timing of favourable conditions for growth and breeding. For example, a warm spring might lead to birds arriving at a spring feeding area after the peak of food availability has passed, affecting breeding success. This study opens the way for genetic analyses of the impact on climate change on seasonal species, and it may be possible to predict which species are particularly vulnerable to climate change.

http://bit.ly/fhHJCQ

COEBP LAUNCH EVENT

The Centre of Excellence in Biopharmaceuticals (COEBP) jointly funded by the NorthWest Development Agency (NWDA) and European Regional Development Fund (ERDF), was officially launched on 23rd November 2010, following its initial establishment earlier in the year. The opening showcase event was held in the Michael Smith Building, which hosts the Centre. Prof Alan Dickson (Centre Director) gave the welcome address, where he outlined the Centre's aims and strategy for the future. Alan stressed the critical value of the COEBP in bringing together the power of industrial and academic expertise to accelerate biopharmaceutical development whilst strengthening this economically-valuable business sector. Dr Linda Magee, Chief Operating Officer of Manchester Academic Health Science Centre (MAHSC) had the honour of 'cutting the ribbon' to declare the Centre officially open. The bioprocessUK Conference was held in Manchester on 24th/25th November and many key sector members from the biopharmaceutical industry and scientists from research institutes attended the COEBP opening. Many of those who attended took the opportunity to tour the Centre's unique robotic facilities and the associated analytical capabilities. Representatives from The Automation Partnership (TAP) and Thermo Scientific were on hand to give advice and to answer queries relating to the custom-built robots. The launch event was a huge success, with more than 70 people present and the occasion provided an excellent networking opportunity for all who attended.

http://bit.ly/hdttDh

Dr Linda Magee and Professor Alan Dickson

EXPLOITING OUR KNOWLEDGE

The Faculty of Life Sciences recently held the second in a series of Business Development events with a focus on 'Exploiting our Knowledge'. The purpose was to promote the opportunities available to researchers for commercializing their research and to encourage staff within the Faculty to work towards doing this with the Faculty Business Development Team and the University of Manchester's Intellectual Property Company (UMIP).

Deputy President and Deputy Vice-Chancellor Professor Rod Coombs emphasised that this activity is of increasing importance to the University and in the future, our ability to exploit our research will be a criterion against which our performance will be judged.

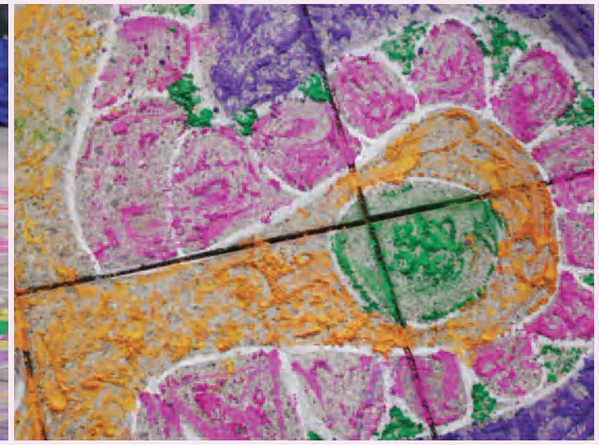
Other speakers included Dr Rich Ferrie Head of the Medical and Life Sciences Team at UMIP, Professor Ian Kimber Associate Dean for Business Development and Professor Mark Ferguson Founder of Renovo Ltd, who talked about building success through innovation and successful industrial research collaborations.

Ian Kimber said "It is great to see a growing interest in seeking opportunities for exploiting research. The Faculty, in partnership with UMIP, is committed to supporting commercialisation; it is important for the Faculty and the University and potentially very rewarding in all kinds of ways for individual scientists."

Professor Martin Humphries closed the meeting by emphasizing that invention disclosures, Intellectual Property generation and commercialization are part of the currency of the academic scientific landscape and that contributions in this area are regarded as being important and will be recognised and rewarded by the Faculty.

MAKING CONNECTIONS

Leading scientists from the Weizmann Institute in Rehovot, Israel joined colleagues from the University of Manchester in a "Making Connections" symposium to present their latest research findings. Generous support from Lord Alliance, David Barton (legacy) and Weizmann UK enabled an exciting 3 day meeting with talks and poster sessions about the mechanisms of cell adhesion, the cytoskeleton and how the regulation of these processes is linked to cell survival and malignancy. It seemed that the spirit of Chaim Weizmann, the first President of Israel who studied Biochemistry in Manchester, was still present amongst the participants who enthusiastically discussed their work in an overwhelmingly friendly atmosphere! Many participants left with the thirst for more interactions, and this has already triggered thoughts about follow-up meetings and collaborations that will strengthen the links between the Institute and the University.



RANGOLI

FLS scientists have been out and about turning the pavements of Manchester into colourful art to illustrate how parasitic worm infections trap people in global poverty.

Around three billion people have gut worm infections globally. Worst affected are children and pregnant women and this has an enormous impact on education in these countries as infected children may only attend half as much school as their healthy peers. Not only does worm infection cause ill-health, it has a major impact on farming with livestock also becoming sick, which massively affects productivity. Although there are cheap, effective medicines that can kill gut worms they encourage drug resistance and do not prevent re-infection. Importantly, even these drugs are not always available to those that need them. Science in Manchester is helping to understand how our bodies fight these parasites with a view to designing new therapies to aid treatment.

The project was funded by the Manchester Beacon for Public Engagement and brought together a community group of Asian women in Longsight called "Inspired Sisters" with University researchers from the Faculties of Life Sciences (Dr Sheena Cruickshank, Dr Jo Pennock and Professor Kathryn Else) and Medicine and was coordinated by a Manchester Development Education Project Officer Aartii Pandey. The event started with an education workshop in which the community group and the scientists led by Dr Sheena Cruickshank and Dr Jo Pennock discussed issues around gut worm infections and global poverty. These discussions provided the inspiration for worm-based art which formed the basis of a large Rangoli mural. Rangoli is a traditional Indian art form which creates beautiful pictures using coloured powder, traditionally used at festivals and celebrations. Two large events to make the giant Rangoli floor murals were held outside Longsight library and the Manchester Museum and all were welcome to join in. The two Rangoli events in Manchester were well attended with around 150 visitors. Feedback from people included "this is really important", "you are breaking barriers" and "I had no idea that worms were so important."

One key impact from the project was the benefit to the researchers involved in the project. The people who attended the workshop and the Rangoli in Longsight had incredibly insightful things to say about our research and provided information that could be only otherwise be gained from doing long- term field work in remote areas. The project has inspired all the researchers involved and made us appreciate again the global significance of the research we do and our place in society. Dr Cruickshank was invited to speak on the project at a national conference on public engagement with key speakers from the Natural History Museum and Wellcome institute. Professor Else is running a project to identify vaccine targets for whipworm infection and Dr Pennock with Aarti Pandey and other colleagues in Manchester life sciences are driving a campaign to look into the ethics of global deworming strategies. We are continuing to plan projects with the DEP and Longsight group and plan to make an education leaflet raising awareness of the significance of worm and global poverty. We will be making another Rangoli event and a worm and gut-based activity as part of "The Body Experience" with other researchers in life Sciences, Medicine and Computer Sciences Manchester University at The Manchester Museum on the 19th March.

http://bit.ly/fGWFDG

NEWS IN BRIEF

LAB COATS IN HOLLYWOOD

Life Scientist, Dr David Kirby's recently released book Lab Coats in Hollywood: Science, Scientists and Cinema (MIT Press) explores how films ranging from A Beautiful Mind and Contact to Finding Nemo and Hulk have utilized scientists as consultants during production. The book examines the interaction of science and cinema showing how science consultants make movie science plausible, how filmmakers negotiate production constraints, and how movies affect real world science and technology. Drawing on interviews and archival material, Dr Kirby examines such science consulting tasks as fact checking, shaping visual iconography, advising actors, enhancing plausibility, creating dramatic situations, and placing science in its cultural contexts. Dr Kirby finds that cinema can influence science as well: depictions of science in popular films can promote research agendas, stimulate technological development, contribute to scientific controversies, and even stir citizens into political action.

TV APPEARANCES FOR CHSTM RESEARCHERS...

On 26 January, Dr Neil Pemberton appeared on BBC1's magazine programme The One Show, in a segment on the 1969 Camberley rabies scare and its aftermath. Neil talked to reporter Joe Crowley about the dramatic public information campaigns developed in the 1970s, and the appearance of "mad dog" themes in popular fiction.

Dr James Sumner was also seen in an edition of Horizon, BBC2's flagship science documentary series. The programme features comedian and ex-physicist Ben Miller as he tries to define, and explain, the concept of one degree of temperature. James's segment discusses the Salford brewer and physical theorist James Joule, whose brewery training encouraged the close attention to thermometric values which led to his concept of energy. The sequence, featuring a re-creation of Joule's famous paddle-wheel experiment, was shot at Elgood's brewery in Wisbech.

OBITUARY – ELIZABETH CUTTER

Elizabeth Cutter, who has died of cancer aged 81, had an international reputation for her extraordinarily precise, microsurgical approach to her studies of the structure and development of plants. She employed this approach to understand how various types of plant cells originate, are modified and function.

Her research, published in journals such as Nature and Science, was a magnet for graduate students from around the world. Her reputation was further enhanced by the publication in 1969 and 1971 of a two-volume work, Plant Anatomy; Experiment and Interpretation, that was widely adopted as an undergraduate text in Britain and north America.

Elizabeth was the only daughter of Roy and Alix Cutter, who had met while travelling to Sudan, where Roy was a judge in the colonial civil service. Until her parents returned from Africa, Elizabeth lived with three maiden aunts in Edinburgh before going to Rothesay House School, where she became head girl. Subsequently, she obtained a first in botany from St Andrews University and a PhD in botany from Manchester University. After a period (1955-64) in the department of botany at Manchester, Elizabeth was headhunted by the University of California. Four years later she was promoted to a full professorship.

However, in order to care for her mother in Britain, she resigned in 1972 and moved to a senior lectureship in Manchester, where seven years later she was promoted to the George Harrison chair of botany – one of only six women among Manchester's 225 professors. Perhaps this was the reason that when Elizabeth arrived in her office as the new professor the cleaner greeted her with: "Good morning, sir."

On assuming the post, Elizabeth knew that a great deal of work needed to be done if the department was to regain its former reputation for research. Unfortunately, various factors made this task difficult, in particular, the drastic reduction in university funding that followed the election of the Conservative government in 1979. In 1986, after a long period of uncertainty, botany and 10 other departments in science and medicine merged to form Manchester's School of Biological Sciences (now the Faculty of Life Sciences), containing more than 125 academics. Elizabeth was able to guide the botanists through this difficult period. In the new school, she led a revision of the undergraduate curriculum, which eventually resulted in the foundation of 18 modular-based BSc degrees in biological sciences.

Elizabeth retired to Gattonside in the Scottish borders. There she pursued her lifelong hobbies of angling (often on the Isle of Skye) and photography, activities that require the kind of patience and attention to detail that she always displayed in her work.

Although she had no living relative, she had a devoted "family" of former students and colleagues who will remember her great kindness.

- Elizabeth Graham Cutter, botanist, born 9 August 1929; died 23 October 2010

OBITUARY – BILL CHAPMAN

Bill Chapman, former lab assistant in the second floor teaching labs in Stopford, died on 8th February aged 65. Bill retired in July 2010 after working at the University for five years.

Before this he worked for thirty years as a chemist for British Gas, analysing newly discovered North Sea gases and quality testing finished gases from the plants. As a lab assistant he was part of a team of six whose role is pivotal to the success of our busy practical teaching schedule.

We knew Bill as a selfless, hard working, gentle-natured man with those rare qualities of intelligence and humour coupled with self-effacing modesty. He amazed us with his courage and optimism in the way he fought not just cancer but also meningitis, determined to return to work as soon as possible and take on his full share of the workload.

It came as no surprise therefore, to learn at his funeral that Bill had worked tirelessly for over thirty years for his church and his local community; that he was universally admired and respected. But it was with some poignancy, as we listened to the numerous tributes in a church overflowing with mourners, that we realised we hardly knew Bill at all. Such was his humility.

He is survived by his wife Lil, son and grandson.

Professor John Pickstone from CHSTM adds that in 2012 the University will be celebrating the work of Alan Turing, perhaps the single greatest figure in the history of computing, who worked in Manchester University after World War Two. One of his achievements here was theoretical studies of the development of plant form, on which he collaborated with Claude Wardlaw, Professor of Botany. Wardlaw was a world authority on morphogenesis, and also on Diseases of Palm Trees – which were economically rather important! In some ways, Professor Cutter developed Wardlaw's work.

FLS, including CHSTM, will be collaborating with Manchester Museum to create a display there on Alan Turing, Morphogenesis and Manchester Biology, which we hope will include Professor Cutter's work, along with present day Manchester research. Growth and form has long been a marvellously visual aspect of biology, and one which has influenced many artists, we will also be reaching out to galleries, and perhaps to new art works.

Editor's Note

If you have any comments or contributions for future editions of the Newsletter, please contact the Faculty of Life Sciences:

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