

2011

Research Review



RESEARCH REVIEW

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The Research Office:

The Research Office, based in the Student Support and Information Services Department, is responsible for helping advise and guide students through their programmes. The team deals with enquiries, admissions, and enrolment of students on an annual basis, as well as offering advice and information on regulations, policies and procedures. There is a confidential open door policy for problems and queries.

It also:

- supplies specialist information, guidance and advice for staff, students and general enquiries
- provides a central focus for the research community and aims to promote and encourage communication within it
- co-ordinates internal and external publications, and statistical returns, and acts as an interface between the research community and external bodies
- prepares for the national research assessments.

The Research Office is based on the ground floor of B Block in the Student Information Centre at Kedleston Road, Derby.

If you are interested in undertaking postgraduate research, contact us at:

Research Office, University of Derby, Kedleston Road, Derby, DE22 1GB
 T: +44 (0) 1332 591060
 F: +44 (0) 1332 597761
 E: researchoffice@derby.ac.uk
www.derby.ac.uk/research

University of Derby acknowledgements:

Vice-Chancellor Professor John Coyne, Head of Research Professor Paul Bridges, Director of Marketing Peter Allen, Head of Corporate Relations Peter Gallimore.

Editorial Team:

Simon Redfern, Matt Cartwright, Sean Kirby, Joanna Colburn, Matt Howcroft, Sally Edwards, Richard Richards, Professor Dennis Hayes.

Foreword

Vice-Chancellor Professor John Coyne

A healthy academic community is populated by individuals passionate about their discipline, curious about the developments in their field and actively engaged in taking new knowledge forward. This engagement, especially in a university with as broad a spectrum of traditional, vocational and professional disciplines as the University of Derby, can take many forms but an active engagement in research is a very clear sign of good health. It is pleasing, therefore to be able to present this latest report. At a time when the external environment for universities like ours is becoming ever harsher our research community is more vibrant than ever.

As a relatively new University and an institution with a high proportion of professional disciplines our research community is still developing but it is doing so at pace and with great ingenuity. The range of work is increasingly impressive and covers the whole spectrum from conceptual to very near market. Our research shows breadth – in terms of discipline mix, orientation and scope. I am delighted that there is work that looks at the progression of our pedagogy as well as the new knowledge itself. It is also pleasing to see that many of the crucial issues facing society and the professions are being actively researched within the University. What is clear from our activities over the past year is that there is a growing volume of the very highest quality work being undertaken.

The distinctive nature of the contemporary university is the extent to which the curious gather within their disciplines and engage in cooperative work across institutional boundaries, and increasingly across frontiers. The engaged academic community is increasingly harnessing technology platforms to share work, share debates and cooperate in the development of new ideas. It is vital that the academic community can share openly, freely and without fear. The maintenance of open boundaries and a free exchange of ideas is vital to the good health of the academy. We shall do everything we can to preserve that openness here.

Research cannot sit in isolation. Important as the community of researchers is they must ensure that the fruits of their work receive an audience wider than the peers in their discipline's community. It is vital that developments in research inform, enrich and move forward our taught curriculum. In this way we can ensure that learning is contemporary and that our taught disciplines never stand still. It is clear within the institution that the highest levels of student

satisfaction, and the highest levels of achievement and 'stretch' in our students, comes when they are challenged at the edge of disciplines by staff who are actively engaged at that leading edge. This is true for our professional disciplines, our actively engaged corporate areas, our teacher training and other areas populated by communities of professionals. But it is particularly focused when active researchers can engage their students and fire them with their own desire, to take themselves and their discipline forward.

This has been another pleasing year of progress for our research community as they make their contribution to the mission of the University, to ensure it is a student focused and learning led institution. Our researchers are leading by example in exploring the boundaries of knowledge; ensuring that their findings enrich, enhance and develop our taught curriculum.



“ ..when the external environment for universities is becoming ever harsher our research community is more vibrant than ever. ”

Overview

Professor Paul H Bridges BSc PhD FGS
Head of Research

I am delighted to write this overview for the *Research Review 2011*. This is the sixth annual *Research Review* and shows the major progress made in research at Derby since the first edition in 2006.

Research has a major role to play at Derby. It is expected to support the core learning and teaching function across the University. Research does this in three ways. Firstly, we encourage research which advances the subject disciplines and at the same time informs the subject curriculum in undergraduate and postgraduate programmes. Secondly, we encourage pedagogic research which strengthens learning in the subjects. Thirdly, the University recognises the importance of conveying to students what it is like to undertake research and the practicalities of the research process.

Since 2006 there has been an expansion in research centres and groups, an increase in the number of researchers and an increase in research output. The number of research groups and centres has increased from ten to 17. This growth reflects the University's plan to build research capacity in the areas where we have curriculum offer. Two new groups this year - the Creative Technologies Research Group and the Electrical, Electronic and Software Systems Research Group - have replaced the former Signal Processing Application Research Group.

The University has made a good start in preparation for a submission to the Research Excellence Framework 2014. The University has established a REF 2014 Planning Committee which enables good representation by the four faculties. A comprehensive audit was conducted in January 2011. This showed that the University currently has nine possible units for assessment compared with just four submitted to the Research Assessment Exercise in 2007. The submission to REF will take place in November 2013. The number of researchers who would satisfy the demanding criteria for entry has increased significantly. The Planning Committee has noted that the picture is changing all the time and there are likely to be significant changes to the current position. The final decisions on entry will be taken in May 2013.

This has been an important year for conference activity. In addition to faculty conferences in research, there have been three other conferences. In January, Postgraduate Research students Atiya Kamal and Annemarie Valentine organised the second annual *New Horizons* PGR Conference with over 90 participants. Later in January, Lynne Hand and Gaynor Davies organised the second annual External Funding Conference with guest speakers Dr Ray Kent from University of Loughborough and Emeritus Professor Judy Simons from De Montfort University. Then in April, we held the sixth Annual Research Conference with over 100 participants taking part in the parallel sessions. The PGR students also took part in the East Midlands University Association conference with the theme *Perspectives on Health*, which was held at Nottingham Trent University.

The University has continued to use general funds to support researchers engaged in curriculum-related research. This year, £225,000 has been placed in a new Research for Learning and Teaching Fund which replaces the three funds which existed previously. There was a very healthy level of applications.

Joanne Hutchinson, Deputy Head of the International Centre for Guidance Studies, has taken over the role of Chair of the University Research Ethics Committee. The School and Subject Research Ethics Committees have now been operating for a full year, and ethical considerations have become a standard part of all research proposals.

There have been two significant developments in the support given to Postgraduate Research students this year. In the autumn Dr Liz Oldfield delivered a series of two-hour workshops on aspects of research communications. In January, international PGR students were invited to participate in a 12-week set of classes in enhancing academic English. Both developments were favourably received by the students.

I hope that you enjoy reading this report on all the research in progress at the University of Derby.

Paul H Bridges
21 June 2011



Overview of Faculty related research activity with the Heads of Research

ADT



Neil Campbell, Professor of American Studies; Faculty Research Manager for Arts, Design and Technology.

In our 2009 faculty research strategy we stated: "The intention is to embed the research ethos into every aspect of the Faculty in terms of teaching, career development (including DPR), and curriculum design. This new visibility for research both internally and externally will increase confidence and enhance the reputation of ADT". In 2011-12 the Faculty will be reflecting critically on this aim and ensuring all its elements are further emphasised across the coming year. Already the ADT Faculty has increased its research groups and centres, and as a result enhanced the visibility of the research environment, both internally and externally. Many staff continue to publish and exhibit extensively, nationally and internationally, and there has been evident success in creating Knowledge Transfer Partnerships as well as broader business relationships. The coming year will see a number of high profile conferences and symposia, as well as invited external speakers, adding considerable academic weight to an already flourishing programme of events. We see all of these multiple dimensions as crucial to the development of research in ADT and, specifically, as key markers in preparation for the Research Excellence Framework in 2014.

BCL



Dr Victoria Carpenter; Faculty Research Manager for Business, Computing and Law.

BCL has recognised and emphasised that research plays an integral role in the Faculty's activities. A curriculum underpinned and informed by up-to-date subject knowledge and experimental development is essential to improving and maintaining a better league table position, which in turn will help attract home and overseas students, both on undergraduate and postgraduate courses. The Faculty expects to participate in the upcoming REF 2014 and, at present, all three schools are working on a strategic plan for submission in their respective areas. The three research groups (Systems Thinking and Organisational Change, Distributed and Intelligent Systems, and Law and Society) are aiming to enhance their external visibility, and national and international profile, by participating in conferences, publishing the results of their research and attracting more PGR students of the highest calibre. The Faculty will continue to encourage joint research projects with our current students, emphasizing the importance of publications for both students and supervisors. Income generation from externally funded research projects is another key area of attention.

EHS



Professor Paul Weller, Head of Research and Commercial Development; Faculty of Education, Health and Sciences and Professor of Inter-Religious Relations.

The Faculty is home to a number of University-recognised Research Centres and Groups, including: the Centre for Educational Research (which incorporates the International Centre for Guidance Studies); the Centre for Psychological Research; the Applied Mental Health Research Group; the Biological Sciences Research Group; the Human and Physical Environments Research Group; and the Society, Religion and Belief Research Group.

The Faculty is developing its research, scholarship and consultancy within the framework of a Research Development Strategy (2010-2014) which was developed in a consultation with Faculty staff and in articulation with the University's approach to research. As set out in its Vision Statement for Research, the Faculty is committed to the "integration of research, teaching, professional practice and societal engagement."

In order to achieve this, the Faculty is working "to create an inclusive and supportive culture for students and staff that is informed by the further development of critical thinking, scholarship and research, to underpin the faculty's academic disciplines and professional practice." And the aim of this integration is: "to serve a range of employers, professions and communities of practice in health, social care, education and science, and to broaden, deepen and improve skills, experience and knowledge capital for the benefit of the wider society."

UDB



Tim Heap, Head of Research, University of Derby Buxton.

The Faculty developed, and has built upon, four themes for 2011; namely application, industry involvement, student involvement and research outputs. We see the key to our future success being based upon the involvement of the whole of the School of Culture and Lifestyle, within the research agenda. This holistic approach then informs the curriculum, involves the students within the process, provides the facility for those experienced in research to guide those new to it; and therefore to have a long term strategy of growth and sustainable outputs. This is exemplified in the research into the psychology of sport (John Pates and Andrew Cowen) where the new academic paradigms are applied and tested within the context of sports coaching (Mark Cheetham, Lee Rylands and Adam Baker), and then used within the teaching and learning environment by involving the students in the collection and analysis of the data. This is then applied to the wider sports arena, through the involvement of elite performers attached to the research group. The process led to papers being submitted for publication within four different areas of sports research. The research in 2011 also led to the development of a new series of sports coaching diplomas in golf, martial arts and football; evidencing that our research has commercial potential within the service sector environment.

Conferences Highlight Research Agenda

The University's research agenda has been put into focus with some recent conferences this year.

New Horizons:

In January, postgraduate students Annemarie Valentine and Atiya Kamal organised the annual research student conference on January 14.

New Horizons was the second annual one day postgraduate research conference and it showcased the University's doctoral level research across a range of subject areas including education, technology, science and media. The conference also offered a forum for potential networking and future collaborations. It was held at the Courtroom at Kedleston Road.

Annual Research Conference:

In April, the Annual Research Conference took place at the Riverside Centre in Derby. Around 100 University academic research staff attended the event, officially opened by Pro Vice-Chancellor Professor Liz Barnes.

The current climate in terms of funding difficulties, and the need to boost the University's research reputation in the face of fierce sector competition with relevant and applied research, was a key theme of the day. Professor Paul Bridges, Head of Research, mapped out the research strategy and plans to create a reputation for quality research which supports teaching.

Delegates then formed groups to discuss a range of current issues they face including the future of postgraduate research, new opportunities in academic practice in research and the Research Excellence Framework 2014.

The event was an opportunity to see some recent research discoveries from each of the research centres and groups, such as cloud computing and embedded microcodes within software systems, and various creative projects produced by the Digital and Material Arts Research Centre and Visual Communications Research Group.

The day concluded with a speech from Professor Paul Weller who spoke about his own research journey at Derby in recent years where he has now embarked on a project investigating religion and belief with the universities of Oxford and Manchester, which is highlighted elsewhere in this *Research Review*.



Professor Liz Barnes opening the Annual Research Conference



University of Derby Corporate

The University of Derby Corporate is the business to business arm of the University with a commitment to empowering employee development, innovation and creativity.

Among its support options UDC co-ordinates, instigates and offers Knowledge Transfer Partnerships to companies; delivering expertise from the faculties depending on the needs of interested clients.

Knowledge Transfer Partnerships run anywhere from nine months to three years and are designed to advance strategic and tactical development projects in a company's business.

As part of one project, Derby experts have been helping a local housing group improve its customer service with market research methods similar to those used by the retail sector.

Futures Housing Group (FHG) in Ripley is the independent parent company of Amber Valley Housing, and Daventry and District Housing, and was launched in 2007. It manages more than 8,500 homes in Derbyshire, Nottinghamshire and Northamptonshire.

FHG is launching a new project to determine the best way to use knowledge about customers to improve its products and services.

With the help of the University of Derby's Faculty of Business, Computing and Law, FHG will utilise existing and new information to better anticipate its residents' needs. A crucial aspect is the development of the housing group's teams to consider residents' lifestyles and aspirational needs, while still focusing on housing requirements and the quality of their homes; as well as improving efficiencies or introducing new services without compromising on service.

The project is being co-ordinated by Dave Voorhis, University Programme Leader for the BSc (Hons) Computing and Information Technology degree courses, who is also bringing expertise from across the University to the project as and when required. He is managing the 18-month long project.

This Partnership received financial support from the Knowledge Transfer Partnerships programme (KTP). KTP aims to help

businesses to improve their competitiveness and productivity through the better use of knowledge, technology and skills that reside within the UK Knowledge Base. KTP is funded by the Technology Strategy Board along with the other government funding organisations.

Lindsey Williams, Chief Executive of Futures Housing Group said: "We are delighted to be able to work in partnership with the University on this Knowledge Transfer Partnership.

"The expertise of University of Derby academics and staff will be used to help shape and tailor the services for our residents. Looking at a strategic issue together will provide tangible benefits for both of our organisations."

For more details contact Amanda Baxendale at University of Derby Corporate, on 0800 678 3311 or email udc@derby.ac.uk.



Postgraduate research focus

Our New Horizons conference presented the opportunity to showcase some of the work our postgraduate students are undertaking in a wide variety of subject areas.

The event was opened by Professor Paul Bridges and Professor Aradhana Mehra gave the keynote speech on: *'The cup that cheers' – human exposure to toxic and essential elements from tea (Camellia Sinensis)*. Presentations were then made by Derby postgraduate students involved in research work, with some case studies featured:

Bridget Leadbeater – Bridget is an inspiration to many people for the work she has undertaken at doctoral level.

At the New Horizons conference she gave her presentation entitled: *"Embezzling from disability studies consciousness and eco-feminist ideology in a quest for inclusive, participatory agricultural research methods"*.

A wheelchair user due to a spinal injury from a number of years ago, Bridget travelled to Africa to work in the field and gather research data in rural areas in Uganda.

She spent three and a half months in Uganda, but just getting there in itself was a logistical task. She had to organise personal assistants and interpreters to be on hand as well as shipping a 4x4 from the UK packed full of research equipment, wheelchair spares, medical supplies and other provisions for the journey.

The research objective was to understand the role of biotechnology in developing countries, and more specifically to study the impact of banana improvement programs in Uganda particularly for women small scale farmers, in the context of the

Buganda culture.

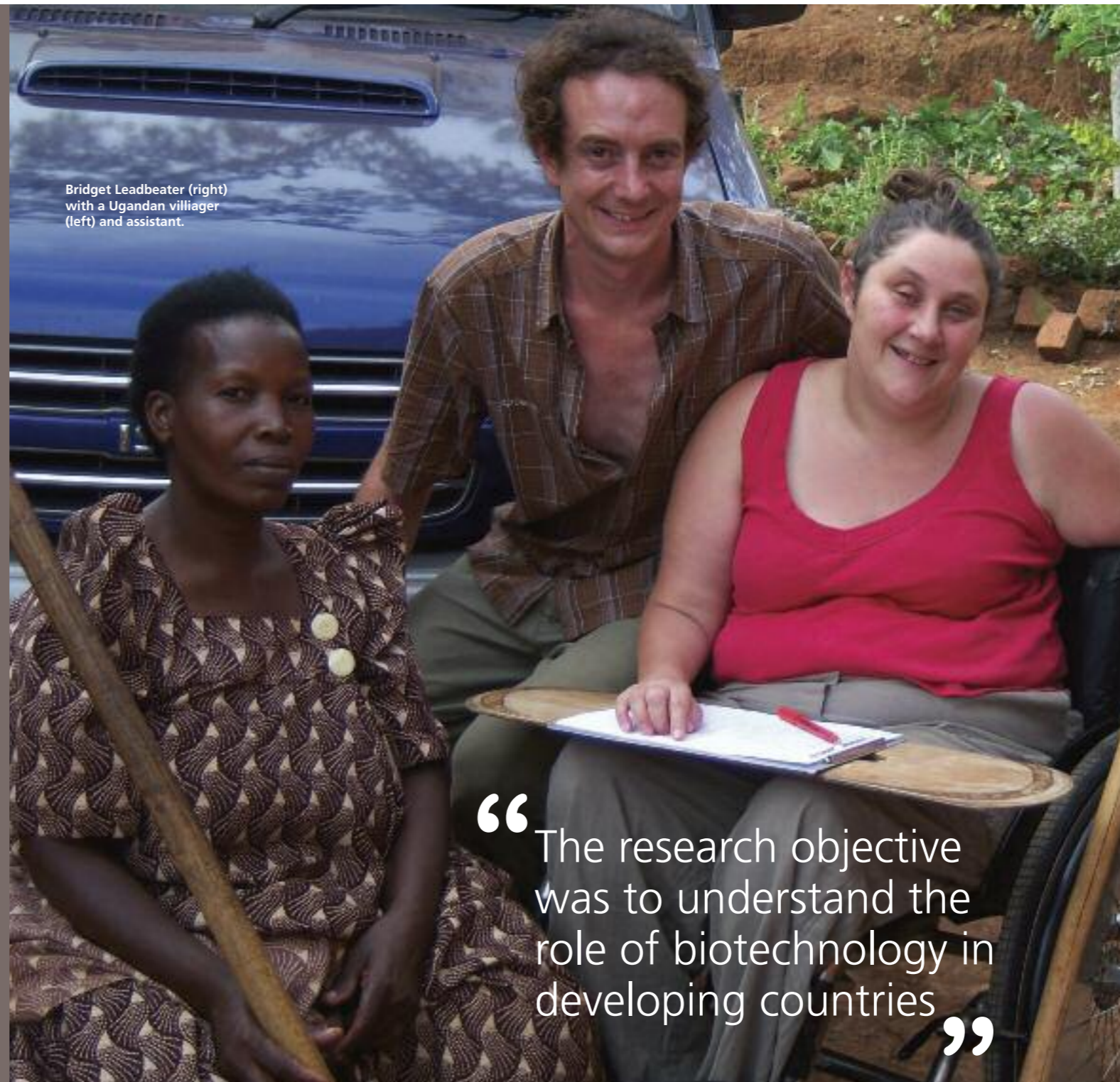
This involved interviewing non-governmental organisations, scientists, civil servants and most importantly small scale banana cultivators.

Bridget said: "It was an amazing experience, meeting and getting to know the farmers and their families, in some cases very well, of which a number are coping with disabilities and debilitating diseases. They welcomed me into their lives and onto their homesteads, despite their difficulties and my 'clumsiness', allowing me insight and some understanding of their lives.

"I believe my disability had a positive impact on the research. There seemed to be a shared empathy of how difficult and unpredictable life can be, mutual understanding of our vulnerability to the vagaries of life and imposed challenges. A unique atmosphere was created during our long and interesting discussions enabling, particularly the women, or disabled farmers an arena to express themselves fully for the first time. I felt so honoured."

The visit took in a range of different terrain: forests, papyrus swamps and rolling hills; through banana plantations, maize, sweet potato, groundnut and cassava. Villagers often assisted Bridget in assembling her wheelchair, helping her out of the 4x4, and guiding her through the land and, in turn, her team assisted them by often picking up children waving jerry cans on their long and tiring way to the boreholes to fetch water, or in taking relatives to hospital.

Bridget said: "I was privileged to hear so many moving and inspiring stories, and conversely I was told that I motivated them. The fact I was from the University of Derby was always met with surprise and encouragement."



Bridget Leadbeater (right) with a Ugandan villager (left) and assistant.

“The research objective was to understand the role of biotechnology in developing countries”

Dr Simon Brownhill – Simon is an education expert who says that children who are aged eight or below cannot grasp the concept of what a role model actually is until they are older. He also suggests that the term 'role model' is shrouded in ambiguity.

Simon surveyed more than 175 men who work in a range of nursery and primary school settings to investigate if they saw themselves as role models for children.

In his research, respondents were unable to give clear meaning to the term 'role model' with 84 different definitions given. His research also explored tensions associated with the 'male role model' argument.

Respondents felt both teachers and a child's parents set more of an example for young children than famous sports stars and

celebrities.

Simon argues that in terms of people they aspire to, toddlers and young children are more likely to be influenced by people who are their own age (generational), who share the same experiences (experiential), and who live close by (geographical).

Simon, who has just published his study – entitled: *The 'brave' man in the early years (0-8): the ambiguities of being a role model* – gave a keynote speech about his study at an international conference at the University of Education in Indonesia recently.

Simon, Senior Lecturer on the FdA Children's and Young People's Services (Pathway) degree, said: "Children who are eight or younger are still finding their feet in the world and do not have a clear concept of what a role model is."



The list of postgraduate speakers New Horizons 2011 conference:

Education:

Deborah Outhwaite - *Is the International Baccalaureate the new A-Level 'Gold Standard'?*

Kevin Cheung - *Authorial identity and plagiarism.*

Jayne Falconer - *Gender, Subjectivity and Post-minimalist Form.*

Simon Brownhill - *The 'brave' man in the early years (0-8): the ambiguities of the 'role model.'*

Technology:

Gwangtim Timothy Poyi - *A novel approach to the flight control of the X-4 flyer using Fuzzy-Neural Network.*

Ikedi Chukwuemeka - *Methodology for developing best practice guidelines for building integrated photovoltaics (BIPV).*

Mohamed Eljarh - *Design and implementation of a novel 5kW/42V converter for automotive applications.*

Bridget Leadbeater - *Embezzling from disability studies consciousness and eco-feminist ideology in a quest for inclusive, participatory agricultural research methods.*

Health and Science

Ian Shropshire - *Shelf life stability studies of protein based drugs: Herceptin™ a case study.*

Sarah Crooks - *Individuals and Identity - a very human predicament.*

Lauren Kelly - *The effects of anxiety on processes of attention in children.*

David Gee - *Male cricket combat.*

Media and Identity

Godwin Oboh - *The Political Communication Model of the news media in the conduct of elections in Post-colonial Africa countries: the Nigeria experience.*

Mark Hall - *Gone in a Flash: the relationship between photographs using flash (strobe) lighting and the public gaze.*

Frauke Uhlenbruch - *Death of the Author: Hermeneutic Challenge Frauke Uhlenbruch.*

Paul Wilson - *Countryside(s) in the contemporary imagination: interrogated through the imagery of leisure and lifestyle.*

The New Horizons Conference was jointly organised by Derby doctorate students Atiya Kamal and Annemarie Valentine. Last year's Research Review profiled Annemarie's work related to Sclerochronology (a study of shells) and this year we focus on Atiya's work:

Have you ever thought: "I can eat that chocolate cake because I am going to the gym later?"

That is an example of a psychological phenomenon called Compensatory Health Beliefs (CHBs) – where adults self justify doing something unhealthy because they plan to do something later on which is healthy to make up for it.

Now a University psychologist wants to know if children have these same negative beliefs and if they contribute to childhood obesity levels.

Atiya Kamal argues that levels of obesity in the UK are on the rise and initiatives such as the Eat 5-a-day fruit and veg campaign and the TV programme *Lazy Town*, which promotes exercise, are not working to reduce levels of obesity in the country.

For her doctorate study Atiya interviewed boys and girls in two age groups at primary schools, aged from five to seven and seven to ten, about their diet and activities, and how this links to CHBs and the growing rate of obesity.

She has been working with colleague Vicki Staples on the study entitled: *"Do children hold Compensatory Health Beliefs: an exploratory study."* The findings suggest children do hold CHBs in areas including physical activity, media related activities, a high fat and high sugar diet, oral health and sleep. In terms of talking about exercise, one six-year-old girl who took part in the study explained why it is acceptable to watch TV for a long time: "I go out, run around, go back in and watch TV again."

Using the findings, they have developed a child compensatory health belief scale which will measure CHBs across a variety of health areas, to support future work in this area and contribute to reducing the rising rates of obesity.

University of Derby Research Centres

Criteria: Currently a Research Centre requires at least ten members, of whom at least four are principal researchers. There has to be a sustainable five-year plan and a business plan with a target of at least £50,000 of external income per annum.

Research Centres need to satisfy criteria relating to three aspects:

- a critical mass of experienced and productive researchers
- a substantial record of research and a realistic five year development plan
- a realistic external income target in the context of the field.

There are currently four Research Centres at Derby:

Digital and Material Arts (D-Marc)



Director:
Professor John Goto
Professor John Goto has an international profile as a photo-digital artist. His UK exhibitions have included solo shows at Tate Britain, the National Portrait Gallery, the British Academy and the Photographers' Gallery in London.

Centre for Educational Research



Director:
Professor Dennis Hayes
Professor Dennis Hayes has an international reputation for writing, researching and campaigning to encourage free speech and debate in all sectors of education. Last year, the BBC and the Qatar Foundation invited him as a panellist for the 50th Doha Debate – broadcast globally - to defend the proposition 'Education is worthless without freedom of speech.' For this work in encouraging debate in education he was awarded a National Teaching Fellowship, in September 2010.

Centre for Psychological Research



Director:
Professor James Elander
Professor James Elander is a registered health psychologist and national teaching fellow. He researches how people with chronic medical conditions cope with pain, and how university students learn about academic writing.

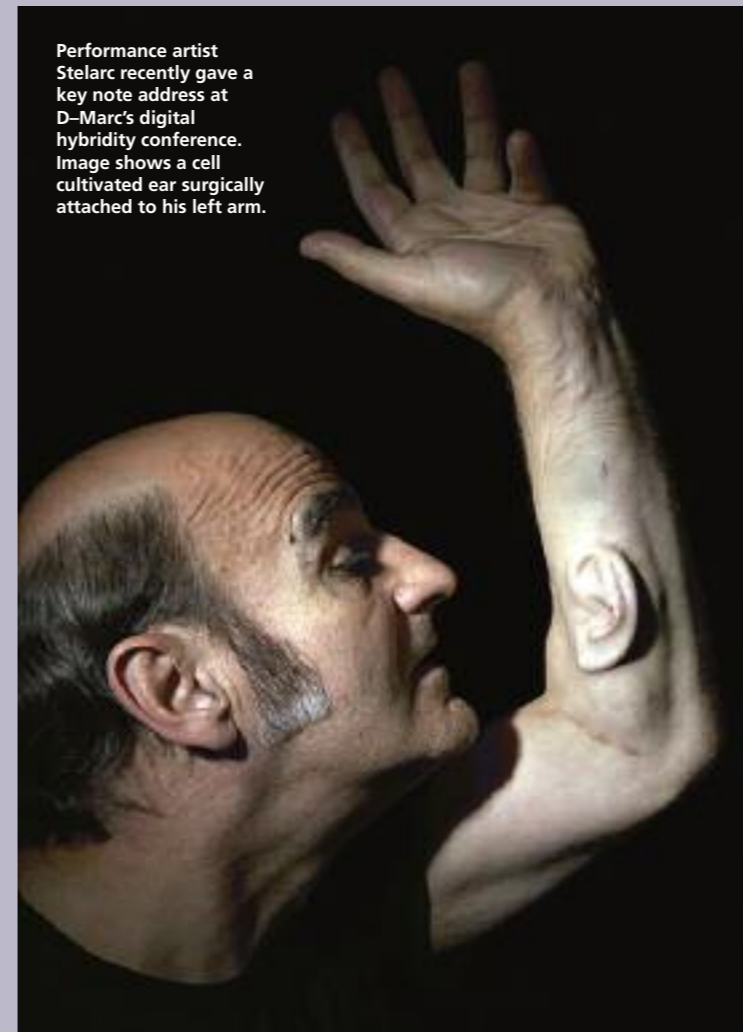
Identity, Conflict and Representation



Director:
Professor Robert Hudson
Professor Robert Hudson's research is rooted in the histories and cultural politics of conflicts and post-conflict aftermaths. This has included Yugoslavia and Yugoslav successor states, and the history and representation of France and its conflicts from 1939 to 1962.



A psychology experiment in action.



Performance artist Stelarc recently gave a key note address at D-Marc's digital hybridity conference. Image shows a cell cultivated ear surgically attached to his left arm.



BEd students in the classroom



Croatian flags along the entrance to Stolac, Bosnia

Digital and Material Arts Research Centre

▷ **Vision:** The Group's focus is on understanding the shifting boundaries and new relationships between traditional arts disciplines created by new technologies. It explores the creative potential of hybrid forms made possible by digitalisation, and is concerned to develop theoretical and pedagogic understandings, capable of keeping pace with and informing technological developments.



Tattoo as seen by the naked eye.



Infra-red filter shows original tattoo underneath secondary one. Pictured right, David Bryson.

○ Case Study

David Bryson has a foot in both the worlds of science and art, working in Art (the Faculty of Arts, Design and Technology) and Biological and Forensic Sciences (the Faculty of Education, Health and Sciences).

His forensic imaging and forensic anthropology projects have a firm scientific basis but can produce intriguing, and beautiful images.

His current work includes projects on:

- Infra-red photography's use in detecting underlying tattoos subsequently covered with a further tattoo; alongside Biological and Forensic Sciences colleague Jon Wright. This has law enforcement applications with regard to tattoos identifying gang members.
- Using body implants eg: hip and knee replacements to support identification.
- Using software to create panoramas and high resolution images.
- Learning and continuing professional development (CPD) for the *Journal of Visual Communication in Medicine* as a member of the editorial board.
- The Hairs project – with Biological and Forensic Sciences colleague Dr Nel Beaumont and Derbyshire Mammal Group's Steve Docker – looking at species' identification through images of whole hairs; created using a series of photographs taken by photomicroscopy then stitched together.

David – a Senior Lecturer in Applied Photography, covering Forensic Imaging and Forensic Anthropology – said: "One of the intriguing things about scientific work is that when trying different techniques you often see something very unexpected."

This observation was highlighted, showing the crossover of scientific technique and art, with David's recent project using the known fluorescent quality of nuts to create startling images, through photographing nougat.



○ Case Study



The Who of the I installation. Right, one of the original sculptures.



An internationally exhibiting artist and regular arts media contributor, **Robert Casselton Clark**'s most recent large-scale project was a 30 metre long site-specific artwork running the length of the outside wall of Yorkshire Artspace in Sheffield, where he has had a studio since the 1980s.

The *Who of the I* installation featured images of 27 original sculptures by Robert, representing supportive phantom friends of real and fictional artists whom he admires.

It follows the success of *That Faraway Look*, at the Lanchester Gallery at Coventry School of Art and Design, in autumn 2009.

Who of the I features more than 100 photo artworks, creating a sequence of what Robert himself called "photographs of almost darkness", like a series of fragmented film noir stills evoking an atmosphere of cultural uncertainty and dread.

Robert, a Senior Lecturer for the BA (Hons) Fine Art course, said: "These projects mark

my return to home ground after several years of exhibiting in Portugal, the USA and Belgium. All the recent series of works are part of an extensive ongoing project entitled *Under Another Name*, which presents the artworks in various media and poetic writings of a series of fictional artists."

The policy of broadening its membership base, and working with other groups, is showing positive results and bodes well for the future.

○ Research Round-up:

Group Members:

Director Prof John Goto

Principal Researchers: Prof John Blakemore, Prof Sebastian Blackie, Prof Huw Davies, Pavel Banka and Peter Fennemore (Visiting Professors), Dr Robert Burstow, Dr Jane Fletcher, David Bryson, Robert Casselton Clark, Vered Lahav, Caroline Locke, Thomas Craig, Kelly Holmes.

Researchers: Dr Matthew Leach, Scott Green, Mark Hall, Paul Harrison, Matthew Jones, Carl Robinson, Steven Watson, Colin Wilson, Sheila Kendrick, Christine Parker, John Tunley, Andrea Robertson-Begg, Denis O'Connor, Louise Caul.

D-MARC launched in September 2010. During the past year it has achieved a great deal.

It established a dynamic website (at www2.derby.ac.uk/dmarc) allowing researchers to manage their research pages and, if they choose, to show the research process as it develops.

Webmaster **David Bryson** was central to this venture's success. It now has a vital and engaging website with regular updates of creative research material, news items, conference reports and collaborative projects. It is accruing a substantial archive to provide a ready source of evidence for the forthcoming Research Excellence Framework (REF) assessment (in 2014).

In January (2011) D-MARC held a day symposium, called 'Digital Dialogues', which brought together creative users of digital technology from across the University and region. In a stimulating and lively day there were 12 presentations. Guest speakers included Professor Lei Cox from Nottingham Trent University, Derby Visiting Professor Peter Fennemore and Dr David Stent of Dispatx Artists' Collective, who presented alongside D-MARC researchers and colleagues from other University of Derby research groups. A capacity audience of 80 attended.

Presentations can be viewed at website www2.derby.ac.uk/dmarc/events/programme

The Centre's conference in June (2011) was entitled 'Digital Hybridity'. It was hosted by D-MARC with East Midlands' Universities Association colleagues Professor Norman Cherry, University of Lincoln; Professor Lei Cox, Nottingham Trent University; Andrew Langford, University of Northampton; Professor Martin Rieser, De Montfort University; and in association with the Creative Technologies Research Group at Derby. The event included cross-disciplinary presentations, especially between sound production and visual arts. Securing our keynote speaker, the artist Stelarc, was something of a coup and created widespread interest. See website www.derby.ac.uk/digitalhybridity

Leading up to the conference an international group of artists created an online project, also on the theme of Digital Hybridity. Dr Stent curated ten projects, with help from David Bryson and **Dr Matthew Leach**. Participating artists included Derby academics and postgraduate research students (PGR); and international artists from Australia, USA, Israel and Portugal. The project will offer supporting evidence for the REF.

The Centre is also particularly pleased with the research achievements of some staff who have not been REF returned before and of PGR students. These include Berwick Film Festival (directed by Professor Huw Davies), which bucked the trend of Arts Council England spending cuts and was awarded a funding increase.

Collaborative projects between D-MARC members and researchers from other groups include: 'Quickening' by Fletcher, Parker and Watson 'Augmented Reality' (Goto and Leach); and 'Hairs' (Bryson, Beaumont and Docker).

□ Recent publications/conferences/exhibitions

Exhibitions

- ▶ Blackie, S. (2011) Solo exhibition, Wolfson College, University of Oxford.
- ▶ Davies, H. (2010 and 2011) Director, Berwick Film Festival.
- ▶ Fennemore, P. (2011) Solo exhibition, Oriol Myrddin, Carmarthen, Wales.
- ▶ Goto, J. (2011) 'Mosaic' solo exhibited, Edinburgh Printmakers Gallery, Scotland.
- ▶ Lahav, V. (2011) Solo exhibition, Nerina Wilter Gallery, Munich, Germany.
- ▶ O'Connor, D. (2010) Group exhibition, 'Heart and Hans' Sculpture in the Garden, Harold Martin Botanic Garden, Leicester.

Conference Papers

- ▶ Bryson, D. (2011) *Teaching Forensic Anthropology with a Small Skeletal Collection*, Forrest Conference, Nottingham Trent University, Nottingham.
- ▶ Burstow, R. (2011) *Art in the City* symposium, Midlands Arts Centre, Birmingham.
- ▶ Wilson, L.K. (2010) *Reconstructing Falkland* (co-authored with David Chapman) *Sonic Methods in Human Geography at the Royal Geographical Society annual conference*.

Centre for Educational Research (CER)



Religion and belief on campus are explored in a new study

○ Case Study



Dr Tristram Hooley

Just what is the experience today of staff and students within higher education who have a religion or a belief?

This is the focus of a national study being

undertaken by the Society, Religion and Belief Research Group and the International Centre for Guidance Studies (iCeGS) within the Centre for Educational Research, both based at the University of Derby.

Professor Paul Weller, from the Religion and Belief Research Group is academic lead on the project and **Nicki Moore** (Senior Researcher, iCeGS) and **Dr Tristram Hooley** (Head of iCeGS) have been conducting much of the research.

The study, commissioned by the registered charity Equality Challenge Unit, is investigating how far staff and students of different religions and beliefs perceive they can participate fully in higher education.

It is also exploring issues of discrimination and harassment, how different institutions accommodate religious observances in their policies or practices; and good relations on campus.

The study includes a survey of 3,000 staff, and 4,000 students as part of the research from England, Wales and Northern Ireland and a series of seven institutional case studies. A report based on the research was launched at a seminar in London in July (2011).

The religious composition of the student bodies in the UK has changed substantially in recent decades and the profile of religion or belief has also become more prominent in higher education institutions.

There have been a number of policy and law changes in recent years which have helped to shape the current climate in the sector. This research aims to provide an evidence base that can be used in institutional and sector-wide policy making and practice development.

▷ **Vision: The CER aims to engage academics, teachers and educationalists in research and scholarship which is based on the belief that it is possible to educate all children and young people, whatever their background or experience.**

The CER contains several 'clusters' of research expertise: Teacher Education, Early Years, Lifelong Learning, Higher Education, Special Educational Needs, Careers and Guidance, Vocational Education and Sociology of Education. Membership of the centre is not restricted to academic staff of the University. Teachers and educationalists are invited to become Associates of the CER and may join our unique Teacher Research Associates Network (TRAN).

Web addresses:

CER: www.derby.ac.uk/education/centre-for-educational-research
Teacher Research Associates Network: www.derby.ac.uk/education/centre-for-educational-research/associates
iCeGS: www.derby.ac.uk/icegs
Edd: www.derby.ac.uk/doctor-of-education-edd?csId=&courseQuery=
SCETT Pamphlet: www.scett.org.uk/media/3583/in_defence_of_teacher_education_scett_march_2011.pdf
Education Forum Pamphlet: www.instituteofideas.com/documents/subjects_defense_ef.pdf



BEd students in the classroom

○ Case Study

Can research influence policy? Research can often lead to papers that aim to influence education policy, says **Professor Dennis Hayes**, who has edited and contributed to two short pamphlets that have made a major impact.

Professor Hayes said: "The best research does not happen in isolation but comes out of public debate, discussion and disagreement. In putting together these collections of articles by academics and teachers, and getting them in the political and public arenas, the aim is to defend the best education for all children."

The first pamphlet produced with members of the Institute of Ideas' Education Forum, co-ordinated nationally by Professor Hayes, is entitled: *A defence of subject-based education*. It presents a

consistent philosophical basis for the return to subject-based teaching that the Government desires but has not fully articulated.

The second pamphlet takes these arguments forward and reveals an inconsistency in Government policy. It favours subject based teaching in school but looks less favourably on teacher education as a subject. The pamphlet, *In defence of teacher education*, published by the Standing Committee for the Education and Training of Teachers (SCETT), of which Professor Hayes is the Honorary Secretary, identifies a danger that teachers learning their 'craft' without teacher education will be asked to teach subjects without knowing what a subject is, and will succumb to fads and fashions.

○ Research Round-up:

Group Members

Principal Researchers: Dr Simon Brownhill, Prof Des Hewitt, Dr Tristram Hooley, Jo Hutchinson, Dr Julia Ibbotson.

Researchers: Prof Paul Bridges, Mabel Ann Brown, Margaret Christopoulos, Dr Brian Hall, Ann Kenny, Siobhan Neary, Nicki Moore, Dr Val Poultney, Dr Neil Radford, Peter Revill, Andrew Saunders, Peter Scales, Lynn Senior, Fiona Shelton, Jenny Thompson, Jon White, Dr Viv Walkup.

Associate Researchers: Dr John Coxhead, Dr Robin Wynyard.

The CER's national and international work is policy and practice focussed.

It contains the International Centre for Guidance Studies (iCeGS). The core iCeGS team of **Dr Tristram Hooley** (Head) **Jo Hutchinson**, **Siobhan Neary**, **Margaret Christopoulos**, **Nicki Moore**, **Kieran Bentley** and **Visiting Professor Tony Watts**, research a broadening area of guidance studies on cutting edge developments in telephone guidance and social networking.

Margaret Christopoulos received a National Career Award (2010) for 'Research undertaken by an individual' for her book *What does 'Career'*

mean to people in their 60th year? Dr Tristram Hooley received a Churchill Fellowship.

Work on teacher education and practice is making a national impact. **Dr Simon Brownhill**, **Dr Des Hewitt** and colleagues are researching behaviour and learning. **Jenny Thompson** leads work on special educational needs and her recent book has been translated into German. **Peter Scales**, **Professor Dennis Hayes** and **Lynn Senior's** work in developing teaching and training in lifelong learning is nationally known.

Dr Val Poultney leads the University's Doctoral work in education through the successful EdD programme. Ten full-time School of Education and Social Science academic staff are close to completing Doctorates. Internal and external doctoral students include **Kuldeep Banwait** (Students as Consumers), **Alison Hardman** (Teacher Training), **Judith Gill** (Academic Freedom), **John Morahan** (Free Schools), **Paul Smith** (Reflective Practice), **Sue Smith** (Coaching in the Workplace) and **Sawsan Yaha** (Behaviour in Schools).

A development in CER will be the establishment of a National Forum for Subject-Based Education, providing the philosophical location and guidance for future research and scholarship.

□ Recent publications/ conferences/ exhibitions

- ▶ Chandler, J. (2010) The role of location in the recruitment and retention of teachers in international schools, *Journal of Research in International Education*. Vol. 9 (3): 214-226.
- ▶ Hayes, D. (Ed) (2011) *In Defence of Teacher Education*. Worcester: SCETT.
- ▶ Ibbotson, J., Morgan, S. and Davies, D. (2010) Travelling Together: narrative biographies from Israeli professional doctorate students: how can these inform our teaching? *Journal of International Teacher Education*. Vol. 14 (1): 56-65.
- ▶ Hooley, T., Hutchinson, J. and Watts, A.G. (2010) *Careering Through The Web. The Potential of Web 2.0 and 3.0 Technologies for Career Development and Career Support Services*. London: UKCES.
- ▶ Neary, S. and Jackson, H. (2010) *A Workforce Development Strategy for the Adult Career Information, Advice and Guidance Workforce in England*. London: LLUK.
- ▶ Roberts-Holmes, G. and Brownhill, S. (2010) Where are the men? A critical discussion of male absence in the early years, in Miller, L. and Cable, C. (Eds) (2010) *Professionalization, Leadership and Management in the Early Years*. London: Sage Publications.
- ▶ Scales, P., Pickering, J., Senior, L., Headley, K., Garner, P. and Boulton, H. (2011) *Continuing Professional Development in the Lifelong Learning Sector*. Maidenhead: Open University Press.
- ▶ Senior, L. (2010) *The Essential Guide to Teaching 14-19 Diplomas*. London: Longman.
- ▶ Thompson, J. (2010) *The Essential Guide to Understanding Special Educational Needs*. London: Longman.
- ▶ Walkup, V. (Ed) (2011) *Exploring Education Studies*. Harlow: Pearson.

Identity, Conflict and Representation



Photo of the late President Tito, leader of the former Republic of Yugoslavia, in the ruins of the Sarajevo Privredna Bank in Stolac, Bosnia.

▷ **Vision:** The Centre is a dynamic and growing research community which regularly hosts seminars, has its own website, and edits *Response*, the University's online research journal.

The Research Centre is planning a two-day conference in September 2012 with the provisional title of 'Affective Landscapes', using papers from its 2009 interdisciplinary symposium. A book entitled *Land and Identity* has been edited for Rodopi Press by Professor Neil Campbell, Dr Christine Berberich and Professor Robert Hudson.

Web addresses:

www.derby.ac.uk/research/research-centres-and-groups/identity-conflict-and-representation-research-centre

○ Case Study

In July 2010, **Robert Hudson** became Professor of European History and Cultural Politics.

The title of his inaugural lecture in May (2011) – *Dying for Culture: The role of cultural politics and history in inter-ethnic conflicts* – was inspired by a field-trip to Herzegovina in 2010.

Robert said: "We were on a hill, above the Radmilja necropolis on the highest ground. All around wide mountain valleys were lit by the sunset coming up from the Adriatic coast. My companion, Adem Repeša, said 'Pejzaž se ubila', or 'the view is killing'; slang for 'what a fantastic view'.

"This simple expression provided both the leitmotiv for my lecture and current work on landscape, conflict and identity."

Robert's lecture was a retrospective of 20 years' research and also advocated that the centrifugal forces of identity formation, the 'narcissism of minor difference' which ignited Balkan tensions in the early 1990s, could be replaced by centripetal forces of cultural and economic trans-nationalism. Potentially, this could bring post-conflict reconciliation to the western Balkan peoples. Robert hopes this potential for trans-nationalism, for culture to cross frontiers and encourage reconciliation, will fuel future conferences, research and publications.

In October 2010, Robert refereed journal article *Conflict, Identity and the Role of the Internet*, focusing on Serbian intelligentsia's internet usage during the 1999 Kosovo conflict.

He is preparing a keynote paper – provisionally entitled *New Media, Conflict and Terrorism: From Kosovo to Libya* – for a Nigerian conference in September 2011.

His book, *After Yugoslavia: Identities and Politics within the Successor States*, is with publishers Palgrave.

○ Case Study

Neil Campbell, Professor of American Studies, is Lead Researcher on a new Critical Regionalism project.

The research developed from his book trilogy on the American New West: *The Cultures of the American New West* (2000), *The Rhizomatic West* (2008), and the forthcoming *Post-Westerns* (due out 2012).

Much has been written about globalisation but how is it affecting the concept of 'region'? The Critical Regionalism project seeks to provide a framework and body of work whereby cultural studies scholars can interrogate the concept of 'region' and arrive at new definitions, taking into account the effect of increasing globalisation.

Neil presented a paper on *Critical Regionalism, Minor Cinema and the Post-Western* to the Modern Languages Association Conference, in Los Angeles, in January (2011). He launched a new website on Critical Regionalism earlier this year (2011), created by him and postgraduate student Caleb Bailey as part of an ongoing University-funded research project. It is at web address www.critical-regionalism.com

In February, a research seminar on the project's scope was held at the University. In May (2011) Neil shared some of its ideas as a guest of the Americas Research Group at Rice



Neil Campbell

University, Houston, Texas.

Neil said: "Our aim with this project is to foster the critical exchange and dialogue necessary to investigate critical regionalism, to provide a proving ground for ideas and analysis in a spirit of academic co-operation and collegiality.

"We hope to develop the framework

outwards from its basis in architecture into an 'expanded' cultural studies perspective and beyond. We want to create a repository of subject knowledge which challenges the effects of culture, geography, history and politics as they interact with our sense of space and place."

○ Research Round-up:

Group Members

Principal Researchers: Dr Teresa Barnard, Prof Neil Campbell, Prof David Crouch, Dr Paul Elliott, Dr David Holloway, Prof Robert Hudson, Dr Sam Kasule, Prof Jason Lee, Dr Moy McCrory, Dr Tom Neuhaus, Prof Carl Tighe, Dr Felix Thompson.

Researchers: Adrian Buckner, Teresa Forde, Simon Heywood PhD, Dr Nathan Hunt, Dr Rhona Jackson, Alasdair Keene, Dr Ruth Larsen, Mary McNally, Dr Elizabeth Oldfield, Dr Jane Parker, Simon Philo, Dr Robin Sims, Anne Wales, Dr Aled Williams, Dr Ian Whitehead.

Associate Researchers: Caileb Bailey, Prof Sebastian Blackie, Dr Frank Faulkner, Adem Repeša, Dr Iride Azara, Sue Reed.

Research Students: Jo Bishton, Peter Breheny, Sean Broome, Katerina Fairweather, Godwin Oboh, Catherine Peters, Paul Wilson.

Dr Paul Elliott, University Reader in Modern History, held a series of talks based on his research and recent publications – *The Derby Philosophers and Enlightenment, Modernity and Science* – building on Derby and the East Midlands' history as a locus of the British Enlightenment.

In May (2011) Paul co-hosted and led the debate for an East Midlands' 'Salon', on the continuity of Enlightenment values in the 21st Century. Salon meetings were themselves established during the Enlightenment and Professor Dennis Hayes, of the University, has resurrected the idea for the region. As part of events relating to a play based on Alison Uttley's book, *A Country Child*, at Derby Theatre, Paul also took part in a panel discussion on the literature and cultural history of the Derbyshire landscape.

Centre member **Dr Sam Kasule** was conferred as University Reader in July 2010 and appointed Deputy Director of the ICR Research Centre in

January 2011. In April he co-organised a lively discussion panel on the current Middle-East crisis entitled: *Democracy and Justice: The case of the Middle-East*. As part of his research on African theatre Sam recently published a chapter on oral narratives, cultural identity and performance in colonial Uganda entitled *Don't Talk into My Talk*. Sam is also heading a research centre project on trans-nationalism and identity involving colleagues Neil Campbell, Carl Tighe and Robert Hudson.

Adrian Buckner is editor of regional literary magazine *Assent* which has a national readership. In October (2010) he held a seminar entitled 'Bedtime Reading', in which he read his own poems and commented upon them for an audience.

Postgraduate research students continue to present research papers, both in ICR Centre's seminar series (**Jo Bishton, Sean Broome, Paul Wilson and Godwin Oboh**) and at the University and Faculty Research Days (Godwin Oboh and Jo Bishton respectively).

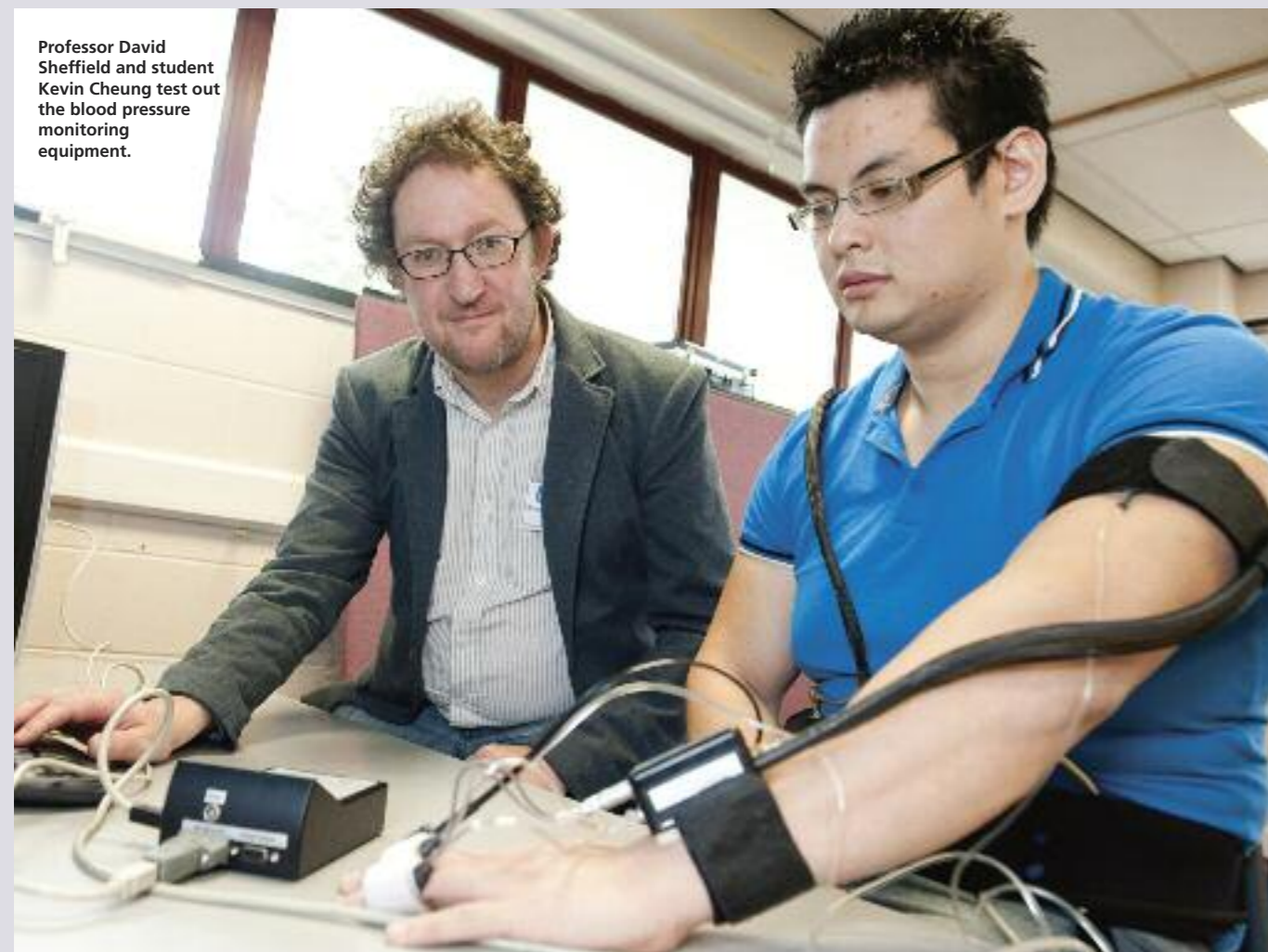
In December (2010) **Professor David Crouch** gave a fascinating talk to accompany the launch of his book *Flirting with Space* in which, through considering the dynamic processes of life spaces, he conceptualises space as being in constant flux as we make our way through the contexts in our daily lives. His book has been described as "...a work of enchanting potential, written from the unique perspective of a mature artist and distinguished scholar".

Picking up on the theme of its one-day 2009 international symposium on 'Land and Identity' the research centre is planning a conference entitled 'Affective Landscapes' for May 2012. At the time of writing the book, *Land and Identity*, is in print with Rodopi Press.

□ Recent publications/conferences/exhibitions

- ▶ Barnard, T. (2010) *Excellencies of Women: Anna Seward's Censored Sermons*. London: Literature Compass, Blackwell.
- ▶ Crouch, D. (2010) *Flirting with Space: Journeys and Creativity*. London: Ashgate.
- ▶ Elliott, P. (2010) *Enlightenment, Modernity and Science: Geographies of Scientific Culture and Improvement in Georgian England*. London: I.B. Tauris.
- ▶ Campbell, N., Berberich, C. and Hudson, R. (Eds) (2011) *Land and Identity*. Amsterdam: Rodopi Press.
- ▶ Hudson, R. and Bowman, G. (2011) *After Yugoslavia: Identities and Politics within the Successor States*. Palgrave/Macmillan.
- ▶ Lee, J. (2010) *Seeing Galileo*. Canterbury: Glyphi.
- ▶ Lee, J. (2011) *Cultures of Addiction*. New York: Cambria.
- ▶ Neuhaus, T. (2011) *Lost Horizons: British and German Representations of Tibet and the Himalayas, c. 1890-1953*. Basingstoke: Palgrave/Macmillan.

Centre for Psychological Research



Professor David Sheffield and student Kevin Cheung test out the blood pressure monitoring equipment.

► **Vision:** The Centre for Psychological Research aims to promote understanding of human behaviour and wellbeing, with a special focus on applied research and research that informs the teaching of Psychology.

○ Case Study

David Sheffield is leading a project with a team of psychologists to see how people cope in stressful situations where there is nowhere to hide – and what long-term health impacts this might have.

David sought more than 200 people to take part in the study, with a range of volunteers testing themselves in stressful situations by plunging their hands in very cold water and taking part in taxing arithmetic tests. The Derby team is monitoring participants' blood pressure to

see if they can establish a correlation between stressful and challenging situations, and hypertension, leading to heart disease in later life. They are using a continuous blood pressure monitor belt and finger cuffs - used by NASA in other experiments - to gauge people's reactions to stressful situations. Crucially, the equipment monitors changes in the diameter of participants' arteries during the challenges. The fundamental reason for the study is to look at how stress responses correlate to

blood pressure levels in the future, to see if psychologists can predict who might be at risk of high blood pressure and heart disease. As part of a further experiment using the same scenarios, David hopes to work with people with known cardiovascular risk factors including high blood pressure and obesity. David will be working with Thai PhD student Kornanong Yuenyongchaiwat, who is sponsored by Thammasat University, Bangkok.

Web addresses:
<http://psychology.derby.ac.uk/centre>



Zaheer Hussain (left) researching computer game addiction

○ Case Study

Online computer environments which attract millions of players worldwide such as *World of Warcraft* have gained increasing popularity over the last decade, but are they addictive? This is a question being posed by Psychology academic **Zaheer Hussain**, who has collected data from more than 1,400 gamers online. Recent studies he has conducted showed that 3.6% of gamers were addicted.

The major risk factors included the age of the people playing computer games, the total time they spent playing games online and the employment status of the individual gamers.

Zaheer suggests that some of the gamers interviewed showed some of the core components of addiction and may end up experiencing other consequences of addiction with the passage of time. He says that video game developers should think about implementing safeguards to prevent excessive play. These could include introducing in-game time monitoring systems which force gamers to log-out if they have been playing for excessive lengths of time. Making avatars experience fatigue and lose points when gamers are playing excessively may also prevent excessive gaming. Understanding the difference between addictive and excessive gaming is important in deciding what types of prevention programmes can help those who are in need.

○ Research Round-up:

Principal Researchers: Dr Anna Maria Di Betta, Dr Kim Drake, Prof James Elander, Prof Paul Gilbert, Dr Hannah Hale, Dr Jenny Hallam, Dr Shenel Husnu, Dr David Kaposi, Dr Rebecca Knibb, Dr Sigrid Lipka, Dr Frances Maratos, Kirsten McEwan, Dr Jane Montague, Dr Miles Richardson, Prof David Sheffield, Dr Ed Stuppel, Dr Claire Williams.

Researchers: Andrew Baird, Dr Ian Baker, Amy Baraniak, Dr Chris Barnes, Simon Bignell, Dr Steve Brown, Dr Keith Clements, Dr Maggie Gale, Corinne Gale, Dr Katie Hewitt, Dr Chris Howard, Tom Hunt, Dr Zaheer Hussain, Dr Lovemore Nyatanga, Paul Staples, Dr Vicki Staples, Dr Michael Townend, Dr Hazel Willis, Dr Glynis van der Hoek.

Associate Researchers/PGR students and Visiting Fellows: Stephanie Archer, Michael Batashvili, Kevin Cheung, Christine Cobby, Sarah Crooks, Anne Hamp, Atiya Kamal, Harpreet Khangura, Lauren Kelly, Dominic Petronzi, Elly Phillips, Dr Cassandra Richardson, Kevin Silber, Kornanong Yuenyongchaiwat.

Other current research projects include assessing the classroom teaching of art with children, using ambulatory posture monitors to assess workplace health and safety, developing methods to reduce discrimination and prejudice between cultural groups, and exploring the impact of potential food allergies among pregnant and breastfeeding women.



□ Recent publications/ conferences/exhibitions

- ▶ Akehurst, S. and Thatcher, J. (2010) Narcissism, social anxiety and self-presentation in exercise, *Personality and Individual Differences*. Vol. 49: 130-135.
- ▶ Baraniak, A. and Sheffield, D. (2011). The efficacy of psychologically based interventions to improve anxiety, depression and quality of life in COPD: A systematic review and meta-analysis, *Patient Education and Counseling*. Vol. 83: 29–36.
- ▶ Cummings, A., Knibb, R.C., King, R., Lucas, J. (2010). The psychosocial impact of food allergy on children and adolescents: a review, *Allergy*. Vol. 65: 933-945.
- ▶ Drake, K. E. (2010). The psychology of interrogative suggestibility: A vulnerability during interview, *Personality and Individual Differences*. Vol. 49: 683-688.
- ▶ Gilbert, P. (2010). An introduction to compassion focused therapy in cognitive behavior therapy, *International Journal of Cognitive Therapy*. Vol. 3: 97-112.
- ▶ Hale, H. C. and de Abreu, G. (2010). Drawing on the notion of symbolic resources in exploring the development of cultural identities in immigrant transitions, *Culture and Psychology*. Vol. 16: (3): 395-415.
- ▶ Hallam, J., Lee, H.A.N., Das Gupta, M. (2011). Painting dinosaurs: How a reception class context shapes children's opportunities for creative expression, in Faulkner, D. and Coates, E. (Eds) *Exploring children's creative narratives*. London: Routledge.
- ▶ Husnu, S. and Crisp, R. J. (2010). Imagined intergroup contact: A new technique for encouraging greater inter-ethnic contact in Cyprus, *Journal of Peace and Conflict*. Vol. 16: 97-108.
- ▶ Kaposi, D. (2010). Between orient and occident: Politics, tradition and the limits of criticism in the Scholem-Arendt exchange, *Journal of Language and Politics*. Vol. 9: 409-432.
- ▶ Stuppel, E.J.N. and Ball, L.J. (2011). The chronometrics of confirmation bias: Evidence for the inhibition of intuitive judgements, *Behavioral and Brain Sciences*. Vol. 34 (2): 89-90.

University of Derby Research Groups

The research group is a formally recognised research community.

There are currently 13 Research Groups at Derby:



Applied Mental Health Research Group
Head: Professor Chris Brannigan

Chris' original research was in clinical ethology, working on non-verbal communication and behaviour therapy with children and their families. He continues to be involved in research in mental health, particularly Cognitive Behavioural Therapy (CBT).



Biological Sciences Research Group
Head: Dr Heidi Sowter

Heidi is a cancer research scientist who joined the University of Derby in 2006. She is currently the chief investigator of a clinical trial investigating the effects of Yoga on gynaecological cancer patients and is part of an international Ovarian Tumour Tissue Analysis (OTTA) consortium.



Built Environment Research Group
Head: Eleni Tracada

Eleni pursued studies in architecture and was a self-employed architect in Florence, and taught at the Leeds College of Art and Design, before joining the University of Derby. She is now its Principal Tutor in the Built Environment (Architecture). Eleni is a Part Three member of the Royal Institute of British Architects.



Creative Technologies Research Group
Head: Dr Bruce Wiggins

Bruce gained his PhD entitled *An Investigation into the real-time manipulation and control of 3D sound fields* at Derby in 2004 and became head of the newly formed Creative Technologies Research Group in 2010. His main research interests lie in the areas of 3D audio manipulation and audio digital signal processing.



Culture, Lifestyle and Landscape Research Group
Head: Tim Heap

Tim has extensive experience in industry where he is frequently engaged on a consultancy basis to review corporate and SME strategies. His research concerns the application of new innovative strategic paradigms within service sector contexts.



Visual Communication Research Group
Head: Jane Stanton

The Group includes all Design staff and embraces all areas of academic activity in the design field which share a common ethos relating to the study, analysis and creative development of text and image, digital design applications, apparel, texture and fabrics, trends, corporate and body image.



Distributed and Intelligent Systems (DISYS) Research Group
Head: Professor Nik Bessis

Nik joined the University in late 2010 as a Professor of Computer Science. His research interests include collective intelligence and resource discovery in data grids and 'clouds'. Nik has a notable interest in disaster management. He is the editor-in-chief of an international journal, has published 100 works, edited three books and led projects worth over £500,000 (his share).



Electrical, Electronic and Software Systems Research Group
Head: Tim Wilmshurst

Tim's research interests include small-scale embedded systems, very low power electronic systems and engineering education. He is a Fellow of the Institution of Engineering and Technology.



Human and Physical Environments Research Group
Head: Dr Richard Pope

Richard is University Reader in Climate Change, and a Fellow of the Royal Geographical Society and Geological Society. His research involves extracting climate and environmental change signals from dry land river systems of southern Europe.



Law in Society Research Group
Head: Dr David Walsh

David is University Subject Head for Criminology programmes. He is an expert in the investigative interviewing of suspects and witnesses. On this subject he has published in peer reviewed journals, presented at numerous international conferences and collaborated with academic colleagues internationally.



Mechanical/ Manufacturing Engineering and Industrial Design Research Group
Head: Professor Mian Hong Wu

Mian Hong Wu's professional interests include intelligent manufacturing systems, robotics application, sensor based monitoring and control systems, and advanced manufacturing technology. He is a senior member of the Chinese Automation and Computing Society UK.



Society, Religion and Belief Research Group
Head: Professor David Chalcraft

David is Professor of Classical Sociology at the University. During the summer of 2011 he will build on the research profile he has achieved while at Derby by taking up a Professorship in Biblical Studies at the University of Sheffield. The new head of the research group will be Dr Kristin Aune.



Systems Thinking and Organisational Change Research Group
Head: Dr David Longbottom

David Longbottom has a strong background in financial services, having worked in the industry for over 20 years. He has been using this experience and knowledge – together with his expertise in systems thinking in his current research, which includes a funded research project – to roll out a systems change intervention within a national network of retail banks.

Applied Mental Health



► **Vision:** To continue to work closely with providers to develop more effective strategies to help and support service users. Whilst Cognitive Behaviour Therapy (CBT) is a particular interest, other therapies and psychotherapies are well represented. The Group supports a strong doctoral programme, including students in Sweden and the USA.

○ Case Study

During 2011 **Dr Michael Townend** (pictured above) has completed a third survey into the supervision of psychotherapists and counsellors, part of an ongoing longitudinal study (first published in 2001) in the journal *Behavioural and Cognitive Psychotherapy*.

Michael said: "We collected data from members of the British Association for Behavioural and Cognitive Psychotherapists (BABCP) for the third time in 15 years; to further understand the standard, nature and quantity of their supervision.

"This knowledge will inform and maintain appropriate standards of supervision for practitioners; to their benefit, and ultimately the benefit of their clients."

Michael also works to disseminate new methods and advances in the delivery of Cognitive Behavioural Psychotherapy.

In the last year he edited five chapters of the

second edition of the book *Cognitive Behavioural Therapy in Mental Health Care* (which also includes two chapters by Derby academic Margot Levinson).

Michael is editor for the BABCP online journal, *Cognitive Behaviour Therapist*, and produced a chapter on *Assessment in Psychotherapy and Counselling* (currently in press), with Derby colleague Wendy Wood.

He added: "Through my work as a practicing therapist and my research, presentations and books I hope to make a measurable difference to the practice and delivery of cognitive behaviour therapy in mental health services."

Michael developed a new Doctorate in Health and Social Care Practice at Derby, to ensure advances in best practice are carried forward into mental healthcare settings by professionals working in the field. It welcomed its first cohort of 17 students in February 2011.

□ Recent publications/ conferences/ exhibitions

► Smith, M. E. (2010) A Qualitative Review of Perception of Change for Perpetrators of Domestic Abuse following Abuser Schema Therapy (AST), *Counselling and Psychotherapy Research*. London: Routledge.

► Stalmeisters, D. and Brannigan, C. (2011) A preliminary exploration into the prevalence of Early Maladaptive Schemas in a group of people with Myalgic Encephalomyelitis/ Chronic Fatigue Syndrome, *Counselling Psychology Review*. 26. March.

► Wood, W. and Townend, M. (in press) Assessment and Case Formulation in Feltham C. and Horton I. (Eds) *The Sage Handbook of Counselling and Psychotherapy*. London: Sage.

► Wood, W. (in press) Challenges with Maintenance and Change in CBT (chapter in) Dryden, W., Branch, R., Grant, A. and Townend, M. (Eds) *The CBT Handbook*. London: Sage.

Members of the group are actively involved in organising and presenting at academic and professional conferences, as well as editing international journals. The setting up and delivery of IAPT, both locally and nationally has been of importance and the subject of some research by members of the group.

○ Research Round-up:

Membership includes: Prof Chris Brannigan, Dr Michael Townend, Dzintra Stalmeisters, Dr Gary Robinson, Wendy Wood, Dr Margaret Smith, Margot Levinson, Jill Schofield, Dr Sean Gaffney, Dr Bill Naylor.

Research Fellows: Prof Ulla Emilsson (Sweden), Dr Steve Wilmot (Canada).

Research interests include:

- clinical supervision
- CBP with children and adolescents
- CFS/ME and early maladaptive schemas
- domestic Abuse
- mixed methodology in research
- developing psychotherapies
- teaching and Learning
- Gestalt psychotherapy and Gestalt in the workplace
- Improving Access to Psychological Therapies.

Web addresses:
www.derby.ac.uk/research

Biological Sciences

► **Vision:** The Biological Sciences Research Group encompasses a diverse array of research that broadly falls into the categories of conservation, human health and entomology. It aims to continue to make an international impact in these areas, as well as providing a local focus for high quality research.



○ Case Study

Dr Peter Jones (pictured above) is Head of Sport and Exercise at the University and heads up Team Derby Performance, the University's new applied commercial arm of Sports Science.

Team Derby Performance aims to help athletes develop their nutrition, biomechanics, and other aspects of their physical and mental wellbeing to help them improve performance.

Peter and his team are actively working with a number of sports organisations to help them on a variety of sports enhancement initiatives and research projects. This summer the group is making use of the new £3.3m Kirtley Building which has a range of state of the art sports facilities and a gym.

In one project, almost 20 sports enthusiasts took part in a study to gauge pain thresholds. During the experiments in a Kedleston Road laboratory, participants were asked to ride on an exercise bike for different lengths of time.

Before hitting the saddle, a shin guard with a wooden dowel inside was strapped against their shins. A blood pressure gauge then increased the pressure and the pain they were exposed to.

Volunteers were tested to see how much pain they could endure both before and after exercising. The study hopes to determine if there is a correlation between exercise and it helping to increase the pain threshold of individuals.

□ Recent publications/ conferences/ exhibitions

► Asher, V., Khan, R., Warren, A., Shaw, R., van Schalkwyk, G., Bali, A. and Sowter, H.M. (2010) The Eag potassium channel as a new prognostic marker in ovarian cancer, *Diagnostic Pathology*. Vol. 5: 78.

► Barnes, K.M., Dixon, R.A. and Gennard, D.E. (2010) The antibacterial potency of the medicinal maggot, *Lucilia sericata* (Meigen): Variation in laboratory evaluation, *Journal of Microbiological Methods*. Vol. 82: 234-237.

► Bulling, M.T., Hicks N., Murray L., Paterson, D.M., Raffaelli, D., White, P.C.L., Solan, M. (2010) Marine biodiversity-ecosystem functions under uncertain environmental futures, *Philosophical Transactions of the Royal Society B*. Vol. 365: 2107-2116.

► Kalavrouziotis, I.K., Koukoulakis, P.H., and Mehra, A. (2010) Quantification of elemental interaction effects on Brussels sprouts under treated municipal wastewater, *Desalination*. Vol. 254: 6-11.

► Sculthorpe, N.F. Grace, F., Kicman, A., Davies, B. and Jones, P. (2010) Evidence of Altered Cardiac Electrophysiology Following Prolonged Androgenic Anabolic Steroid (AAS) Use, *Cardiac Toxicology*. Vol. 10 (4):237-243.

► Vahed, K., Parker, D. J. and Gilbert, J. G. (2010) Larger testes are associated with a higher level of polyandry, but a smaller ejaculate volume, across bushcricet species (Tettigoniidae), *Biology Letters*. November 2010.



○ Research Round-up:

Members: Dr Kate Barnes, Dr Nel Beaumont, Dr Mark Bulling, Dr Phil Carey, Dr Peter Jones, Prof Paul Lynch, Prof Aradhana Mehra, Dr Graham Rowe, Dr Karim Vahed, Dr Alan-Shaun Wilkinson

Associate Members: Mr Anish Bali (Senior Consultant Surgeon, Royal Derby Hospital)

PhD Students: Stephanie Archer, Laura Chan, David Gee, Ian Shropshire.

Research Activity:

- the function and evolution of nuptial feeding and aggression in insects
- molecular conservation genetics and evolutionary biology
- modelling biodiversity and ecosystem function

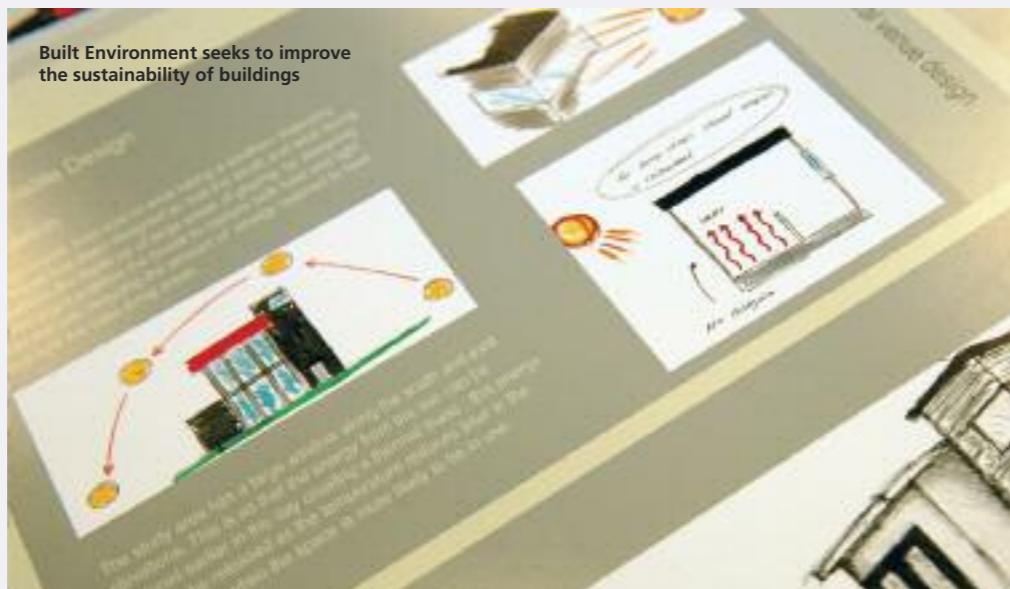
- marine ecosystems and large mammal identification
- plant cryopreservation biotechnology
- forensic and medical entomology
- drug chemistry and stability
- interactions of toxic metals with biota
- aquatic ecology and plankton assemblages in marine waters
- exercise physiology and pain
- bone densitometry and osteoporosis
- ecology and conservation of vascular plants
- biology of gynaecological cancers and improvement to treatment
- solid state chemistry
- the history of science.

Web addresses:

www.derby.ac.uk/science/biological-sciences/biological-sciences-research-group

Built Environment

► **Vision:** The Research Group launched in July 2010 as a multi-disciplinary group (inside the School of Technology's Built Environment Department) to bring together architecture, civil engineering and construction. Researchers are active within the East Midlands Research Networks in the Philosophy and History of Architecture, Environmental Technology and Architectural Education; and with national and international research networks, such as the International Society of Biourbanism.



Built Environment seeks to improve the sustainability of buildings

○ Case Study

Retro-Tek is a universities and private industry project to reduce empty property numbers and carbon emissions, and regenerate city areas.

Dr Boris Ceranic, Programme Leader for Architectural courses; **Chris Forby**, Lecturer in Interior Design; and **Graham Markwell** of Derby's Architectural Venue Design programme; together with Derek Cottrell, University of Lincoln Head of School of Architecture; and Colin Bridges, of Derby architectural practice EKV Design; launched Retro-Tek at the national 2010 Empty Homes Week.

Combined expertise addresses issues of design and procurement concerning empty homes, and their refurbishment to a high sustainable standard.

Bringing houses back into use could aid the UK's commitment to reduce carbon gas emissions by 80%, by 2050.

Around 65% of approximately 26 million UK households were built more than 50 years ago. Of those 80% will be around in 40 years. England has more than 600,000 empty homes (Empty Homes Agency figure).

Issues over sustainable 'retro-fitting' of empty properties include design, procurement, law and

the health considerations for those living in well insulated homes.

Boris – Retro-Tek team leader – said: "Empty homes are a persistent issue and we must persevere in finding a solution. It is socially, economically, environmentally and morally wrong to have such a large stock of empty houses."

Retro-Tek was at the Japanese - East Midlands Technology Showcase at Loughborough University (November 2010) and EcoBuild 2011 (March).

Derby academic staff are supported by business-to-business arm, University of Derby Corporate.

Retro-Tek is also supported by the Sustainable Construction i-Net, which is funded through the East Midlands Development Agency and European Regional Development Fund. i-Net develops new and sustainable technologies for the construction industry.



□ Recent publications/conferences/exhibitions

Journal Articles:

► Counter, B. (2011) An investigation into the developments of mechanisation of railway infrastructure maintenance between 1998 and 2011, *Permanent Way Institution Journal and Institution of Civil Engineers Proceedings*.

► Ikedi, C.U., Okoroh, M.I. and Unachukwu G.O. (2010) Barriers and strategies for building integrated photovoltaics (bipv) in the sustainable development of Nigerian built environment, *2nd International workshop on renewable energy for sustainable development in Africa*, Abuja, Lagos, Nigeria, July 27 - 29, 2010.

► Tracada, E. (2011) Reformation Places and the use of Senses in their Design: Seclusion Spaces and Heightened Sensory Awareness/Responsiveness *International Journal of Interdisciplinary Social Sciences*, Vol 5 (10): 355-370.

Conference Papers:

► Sagoo, A., Okoroh, M., Jones, C. and Sihra, T. (2010): An Overview of Asset Management of Social Housing in UK – A Decent Homes Approach, *The third International World of Construction Project Management Conference proceedings*, Coventry University.

► Tracada, E. (2011) From Modernism and under the Fascist flag of Italian Nation to Post-modernist urban sprawl -The emergence and the power of the architectural Schools in Italy in Quek, R. (Ed.), *Proceedings of the Conference - Theoretical Currents: Architecture, Design and the Nation*, Nottingham Trent University, 13-15 September 2010. (also accepted for publication in the refereed *Theoretical Currents Journal*, Vol. II, (2011/12).

buildings compliant with the Building Research Establishment Environmental Assessment Method (BREEAM) standard and develop a strategic framework for building compliant requirements.

At the invitation of Rome's University La Sapienza and University of Rome Tre, research group head Eleni Tracada presented a paper in early April (2011) as part of an occasion to mark 150 years of the Union of Italy. Her keynote lecture entitled *Landscape and Urban History leading to the Detection of Hidden Codes for Contemporary Urban Sprawl. Is this the Way Forward for the 21st Century Urbanism?* and video will shortly be inserted into the group's Biourbanism web pages.

Eleni was also nominated as Chief Editor of the *Journal of the International Society of Biourbanism* in April (2011).

○ Research Round-up:

Group Members: Eleni Tracada, Dr Boris Ceranic, Brian Counter, Angela Dean, Prof Michael Okoroh, Graham Markwell, Uwe Nielander-Yarwood, Roy Parker, Mark Hanna, Chris Forby, Graham Smith, Christopher Stone.

PhD students: Randah Ashour and Emmie Deakin.

The Built Environment Research Group is able to demonstrate significant economic and/or social benefit. Recent research activities include **Dr Boris Ceranic's** Retro-Tek project, with iNET, and his SMART-POD projects.

Professor Michael Okoroh and **Eleni Tracada** will this year take up a research project entitled 'A Framework for an environmental monitoring system'. It will aim to critically analyse current methods used by contractors to construct

Web address: www.derby.ac.uk/research/research-centres-and-groups/the-built-environment-research-group

Creative Technologies

► **Vision:** The Creative Technologies Research Group draws together expertise in acoustics, signal processing for sound, music, video and multimedia technologies, aesthetics, aural perception and cognition, music composition applying digital techniques, and surround sound and performance/live event technology and techniques. The group sits on the boundary between the artistic and the technical, bringing together researchers and projects.



One of the stage performances at the Creativity World Forum, Oklahoma (picture courtesy of conference organisers).

○ Case Study

Chris Wilson (pictured far right) has been investigating creativity in higher education; presenting research in both the UK and the USA into whether creativity should be seen as a teachable, valuable and measurable pedagogic domain.

As a delegate at the Creativity World Forum in Oklahoma, USA, (November 2010) Chris was inspired to look at the importance of creativity within HE. He began with a study of the Quality Assurance Agency for Higher Education (QAA)'s undergraduate subject benchmark documents. A significant variation he observed in 'creativity emphasis' across subjects prompted further enquiry.

His positions as Senior Lecturer in Music and Teaching Fellow drew Chris to explore the

impact technology has on student learning and creative practice.

He said: "It's important we recognise that technology is now one of the most significant drivers in educational change, most notably in the art and sciences.

"Technology is blurring the boundaries between disciplines and inaugurating new domains of creativity. However, limits inherent in the functionality of technology systems and educational environments can constrain as well as liberate creative ideas. Increasing our understanding of how personal creativity is affected by technology is critical in developing the best approaches to learning and teaching strategy."

Chris presented his research at the D-MARC

symposium (January 2011); the American Creativity Association (ACA) Worldwide Conference in Florida, USA, (31 March 2011); and at the Journal of Media Practice Symposium at the University of

the West of England (24 June 2011) under the working title: 'Exploring the impact of technology on the pedagogy of creativity in the arts and higher education'.



○ Research Round-up:

Principal Researchers

Dr Bruce Wiggins, Dr Peter Lennox, Chris Wilson, Michael Brown, Dr Richard Hodges.

Researchers

John Crossley, Duncan Werner, Alex Gibbins, Kristian Lane.

Research:

Dr Bruce Wiggins

- Work on Surround Sound Audio encoding/decoding of BAFTA winning F1 2010 Playstation 3 Game (Codemasters).
- The Social Side of Studying – Social Networking in Teaching Project.
- Teaching Critical Evaluation and Analysis by Example (TIR Funded).

Dr Peter Lennox

- Chatsworth Sound Garden.

Chris Wilson

- Interactive Media Agency (UDC Funded).

John Crossley

- Sigma 7 – Live, Large Scale Sound Spatialisation Project.

Duncan Werner

- Multi-channel Guitar Project (RAE Funded).

Dr Bruce Wiggins, Alex Gibbins, Kristian Lane

- 3D Data Capture and Utilisation using Microsoft Kinect (RAE Funded).

Dr Bruce Wiggins, Chris Wilson, Michael Brown, Dr Richard Hodges, Kristian Lane

- Large-scale sound theatricality: Realising the sound of the Tempest in the Buxton Dome (RICE Funded).

Dr Bruce Wiggins, Chris Wilson

- Surround Sound Symposium (RICE Funded).

Dr Peter Lennox, Chris Wilson, Michael Brown, Dr Richard Hodges, Alex Gibbins

- 3D Musical Score Project (RAE Funded).

Christ Wilson, Michael Brown

- Sound, Space, Image and Music: hybridity in creative process through technology and interactivity.

□ Recent publications/conferences/exhibitions

► Wilson, C. (2011) Technology, Artistry and Creativity: Exploring the impact of technology on the pedagogy of creativity in the arts in higher education, *American Creativity Association (ACA) International Conference*. Fort Lauderdale, March 31–April 1.

► Wilson, C. and Lennox, P. (2010) Derby Laptop Orchestra Technologies *Creative Exhibition*. Mansfield, UK.

► Wiggins, B. (2011) Shuffling Your Way from Ambisonic Surround to Headphones. *The Forum for Innovation in Music Production and Composition*. May 12, Leeds College of Music.

► Hodges, R. E. (2011) *The Country Child*, Original live sound score and performance for large-scale theatrical realisation, *Derby Theatre*. May 26–28.

► Lennox, P. and Myatt, T. (2011) Perceptual Cartoonification in multi-spatial sound systems, *International Conference on Auditory Displays*. May 15, 2011, Budapest, Hungary.

Web addresses:

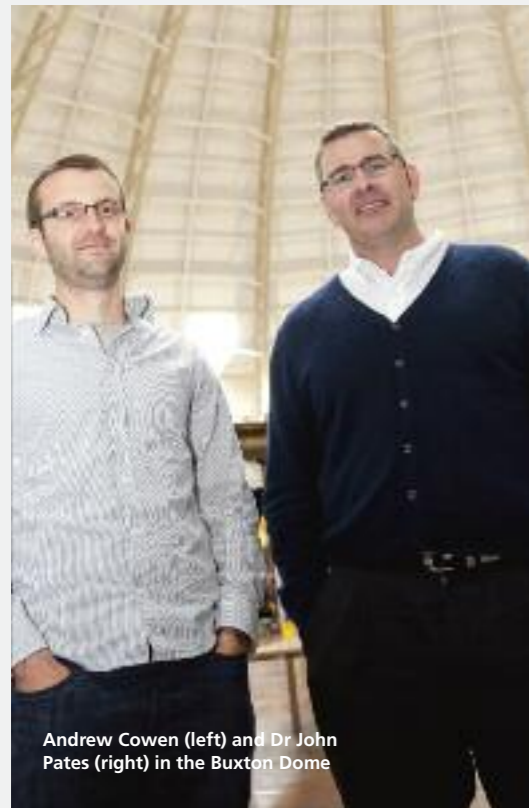
www.derby.ac.uk/research/research-centres-and-groups/creative-technologies-research-group

Culture, Lifestyle and Landscape

► **Vision:** The Group is embedding its research in experiential learning to make practical differences within the service sectors that the Buxton Faculty's students are joining.

This is about inclusivity and combining disciplines within the broad remit of the Faculty's academic subjects. The school is well placed to play a large part in the research and consultancy agenda necessary to grow the service sector economy, which is forecast to grow exponentially over the next ten years.

○ Case Study



Andrew Cowen (left) and Dr John Pates (right) in the Buxton Dome

Lecturer in Sport Psychology **Dr John Pates** has brought his years of experience and excellent record as a practicing sports psychologist on the professional golf circuit to the University's sports psychology research agenda through two groundbreaking papers this year.

"The applied sport psychology techniques I use with professional golfers to improve their performance are always athlete centred," John explains. "Sportsmen are experts on their own psychology and a valuable resource in the development of new intervention strategies."

A study of this athlete centred approach carried out with three professional golfers on the European Golf Tour from 2002 is presented in John's paper *Pre-Shot Routines of Elite Golfers: An Athlete Centred Approach* which has been submitted to the *International Journal of Sports Psychology*. In it, John took a phenomenological approach, working with golfers to analyse their pre-shot routines; then identifying, refining and developing their individual routine to make sure it worked for them.

"After we identified and practised the

optimum routine – whether that was self-talk, imagery or attentional control – golfers practised and put it into their match play. We saw an increase in performance levels, prize earnings and world rankings."

This person centred perspective led John's colleague **Andrew Cowen** to develop a new theoretical approach to peak performance in sport. Andrew's research paper, which is in progress, introduces *Correction Theory*; a top down theory which views an individual as a dynamically balanced system which has a tendency to self organise, adjust and correct.

Andrew explains: "The central tenet of this theory is that individual functioning is underwritten by a tendency towards balance. Challenges to this balance will inevitably result in a correction to restore balance to the system. In sport, corrections can take the form of peak performances or dysfunctional performances."

They are currently looking to submit the paper and then to carry out analyses of athletes' peak performances and 'choking' to investigate whether fluctuations in performance can be explained using *Correction Theory*.

□ Recent publications/ conferences/ exhibitions

- Crouch, D. (2010) *Flirting with Space: Journeys and Creativity*. Surrey: Ashgate Publishers.
- Buhalis, D. Michopoulou, E. (2011) Information Enabled Tourism Destination Marketing: Addressing the Accessibility Market, *Current Issues in Tourism*, Vol. 14 (2): 145-168.
- Nelson, N.M. and Woods, C.B. (2010) Neighbourhood Perceptions and Active Commuting to School Among Adolescent Boys and Girls, *Journal of Physical Activity and Health*, Vol. 6: 257-266.
- Pappas, N., Tsartas, P., Papatheodorou, A. and Stravrinpudis, T (2011) Emerging Dynamics in the Travel Agencies Sector: Evidence from Greece. *Acta Turistica*.
- Wiltshier, P. (2010) Project Workers in Tourism, *17th Annual World Congress of Sociology, RC50 Tourism Policies*. Gothenburg, Sweden August 2010.

○ Research Round-up:

- **Principal Researchers:** Dr Sandy Cope, Dr Ken Gibson, Prof David Davies, Dr John Pates, Eleni Michopoulou, Peter Wiltshier, Prof David Crouch, Dr Iride Azara, Dr Nicolas Pappas.
- **Researchers:** Mark Cheetham, Adam Baker, Lee Rylands, Steve Lewis, Matt Bromley, Dr Mageda Emragea, Duncan Marson, Andrew Cowen, Fiona Holland, Len Cseh, Nicola Taylor, Geoff Shirt and Sarah Rawlinson.
- **Postgraduate Researchers:** Pascal Mandelartz, Giwan Kim, Minas Mina and Gillian Hunter.
- **Dr John Pates** - Effects of Pre-task Music on Precompetitive Anxiety among Elite Performers.
- **Dr John Pates and Andrew Cowen** - Pre-Shot Routines of Elite Golfers: An Athlete-Centred Approach.
- **Fiona Holland** - Body Image: Instrument or Ornament? SportEx Dynamics.
- **Eleni Michopoulou** - Accessible Tourism Stakeholder Analysis.
- **Peter Wiltshier** - Problem Based Learning and Knowledge Transfer.

- **Professor David Crouch** – Flirting with Space: Thinking Landscapes Rationally.
- **Dr Iride Azara** – The Articulation of Culture Tourism in Sardinia.
- **Dr Nicolas Pappas** – The Effects of the Financial Crisis on Tourism Activity.
- **Mark Cheetham and Adam Baker** – The Effects of Balance Theory on Olympic Power Based Athletes.
- **Lee Rylands** – Power and Endurance Techniques with Olympic BMX Cyclists.
- **Steve Lewis** – Aspirations and Perceived Outcomes from Youth Overseas Expeditions.
- **Len Cseh** – An Investigation into Artisan Food Production.
- **Dr Ken Gibson** - The Apocalyptic Thoughts of Thomas Brightman Reconsidered.
- **Matt Bromley** – Psychological Flow States and Customer Experience at Events.
- **Dr Mageda Emragea** – An Exploration of Tourism Development Theory and Educational Responses in Eastern Libya.
- **Pascal Mandelartz** – Tourist Behaviour during and After Times of Crisis.

Web addresses:

www.derby.ac.uk/research/research-centres-and-groups/culture-lifestyle-and-landscape-research-group

Visual Communication

► **Vision:** The Group includes all Design staff and embraces all areas of academic activity in the Design field which share a common ethos relating to the study, analysis and creative development of text and image, digital design applications, apparel, texture and fabrics, trends, and corporate and body image.

Projects aim to address the way Design can contribute to the development of a prosperous, resilient and sustainable society. Within this, the current focus is on physical publication in the contemporary age, exploring traditional meets digital and concrete meets virtual.



Rhiannon with some of her 'losing' Lottery tickets!

During the last year **Rhiannon Williams** has exhibited, presented papers on and published a catalogue about her ongoing body of textile artwork *Critical Cloth*.

Critical Cloth sets out to critique capitalist culture at the beginning of the 21st Century. The project comprises a set of hand sewn lengths of patchwork, each patch a piece of paper relating to modern life. Through the careful selection and slow accumulation of these paper patches Rhiannon aims to dramatise consumer culture.

The lengths are, and will remain, unfinished as Rhiannon plans to continue to add to them long into the future.

Rhiannon, a Lecturer in Textiles, began work on the first piece in the series, *My Loss Is My Loss*, in 2002. She explains: "This piece is comprised of used Lotto tickets that I've purchased every week for the last nine years. I add losing tickets to the patchwork, which measures four and a half metres

long and cost £4,500 in tickets at its current point."

Issues around the fantasy of winning big money are explored further in another of Rhiannon's patchworks *Money Talks*. Here, scratchcards have been stitched in a similar fashion, this time backed with newspaper reports on global finance.

"Commitment to slow labour over very long periods of time is central to the philosophical exploration of *Critical Cloth*," explains Rhiannon. "I'm also creating six patchworks each sewn from pages of the six volumes of Proust's novel *In Search of Lost Time*. It will take me at least 14 years to cut and sew all the pages of each book, the amount of time it took Proust to write the novel."

Critical Cloth was shown at a solo exhibition organised by Nottingham City Council at Nottingham Castle from April to June 2011, and was published in a catalogue to accompany the exhibition.

○ Research Round-up:

Members:

Principal Researchers: Rodger Brown, Rhiannon Williams, John Angus, Josie Walter, Tracy Tomlinson and Jane Stanton.

Researchers: Richard Levesley, Marc Bosward and Tracy Allanson-Smith.

Significant progress has been made in this research environment as individual members have taken advantage of encouragement given by the University to attend writing retreats, prepare papers for conferences and develop concepts for PhD projects.

The relationship of research to teaching is a major priority for the Group, and establishing a strong postgraduate culture in Design continues to be an important focus. To this end we have overseen the introduction of the Integrated Master's award, the successful validation of an MA in Visual Communication, and development

of an MA in Fashion and Textiles.

The Observatory publication has continued to be an effective means of galvanising creative, visual ideas, and stimulating interest and dialogue across the faculty. In addition to this, a University research grant is being used to create and maintain a more extensive website plus promotional facilities for conferences, exhibitions and fairs across the UK and overseas.

There were many successes for individual group members such as Art Lecturer **Rodger Brown** with his research *Concept as Concrete Form: the work of Eugen Gomringer and its legacy for contemporary visual art practice*. It illuminates the way in which the concrete visual form has developed, absorbed and assimilated literary and text-based forms within visual arts practice; and will be of interest to students, academics, critics, commentators, curators, artists and writers.

□ Recent publications/ conferences/ exhibitions

(since 2010)

- Allanson-Smith, T. (2011) Virginia Woolf Triptych (with McNaney, N.) Work exhibited in Type Writing at Birmingham Institute of Art and Design (BIAD), March 2011.
- Bosward, M. (2011) Constructing Reality: An Animated Renegotiation of Documentary Truth *the Higher Education Academy conference: 'Animating Realities: Animation, Documentary and the Moving Image'* Edinburgh, June 23-24, 2011.
- Stanton, J. (2011) Fashion and Textile Design. British Council - Sino-British Cooperation Centre for Textile and Fashion Production, Teaching and Research, Ningbo, Zhejiang Province March 13-19 2011.
- Tomlinson, T. (2011) Tangerine. *The Observatory*. Issue Three. Design and Visual Communication Research Group, March 2011.
- Tomlinson, T. (2010) Vermilion. *The Observatory* Issue Two. Design and Visual Communication Research Group, September 2010.

Public Architecture:

- Angus, J. (2010) Invention of method for digital origination and production of High Definition Stylised low-relief formliners (moulds) for Glass Reinforced Concrete production. July - Sept 2010. Collaborators: Barratt East London and GRUC Ltd. University of Derby Corporate: Case Study.

Web addresses:

www.derby.ac.uk/research/research-centres-and-groups/visual-communication-research-group

Distributed and Intelligent Systems (DISYS)

▷ **Vision:** Established in late 2010, DISYS aims to create and develop an internationally excellent research environment that is well regarded for its industry collaborations and scholarly research activities in the area of emerging technologies; with a particular focus on person-to-person, grid and cloud computing.

○ Case Study

With a solid research background in biomedical engineering and computer science, **Dr Andreas Oikonomou** has been channelling his expertise into developing programmes with valuable real world applications.

A conversation with a colleague who has a daughter with cystic fibrosis (CF) led Andreas to secure funding for a research project in conjunction with physiotherapists at Nottingham University Hospitals Foundation Trust. Over the last year he has been developing computer games that encourage children with CF to effectively complete the daily repetitious breathing exercises which remove excess fluid from their lungs.

Andreas, Computer Games Subject Group Coordinator, said: "Working with colleagues in the University's ADT Faculty we designed a device that could capture the child's breath using a mask, converting it into electronic signals that controlled characters in the four games we'd developed."

The research is now going into a clinical trials phase and Andreas plans to submit to relevant journals once it is complete.

As well as biomedical significance, Andreas' research into the applications of computer games

○ Research Round-up:

Members:

Principal Researchers: Prof Nikolaos Antonopoulos, Prof Nik Bessis, Dr Richard Hill, Dr Ashiq Anjum, Dr Peter Larcombe, Dr Lu Liu, Dr Zaigham Mahmood, Dr Andreas Oikonomou.

Researchers: Dr David Day, Dr Shao Ying (Peggy) Zhu.

Visiting Researchers: Dr Elena Asimakopoulou (University of Bedfordshire), Dr George Exarchakos (Eindhoven University of Technology), Dr Godfried Williams (Intellas UK Ltd), Dr Peter Norrington (University of Bedfordshire), Dr Christos Politis (Kingston University).

Associate Researchers: Dave Voorhis, Harjinder Lallie, Anthony Smith, Jianjun Zhang.

- Two externally funded projects led by **Dr David Day** and **Dr Andreas Oikonomou**. The projects aim to develop a series of custom designed games to encourage young cystic fibrosis patients to engage in physiotherapy.
- An externally funded project led by **Dave Voorhis**. The Knowledge Transfer Partnership (KTP) aims to develop improved insight into the lives of Futures Housing's tenants in order to improve their quality of life and social wellbeing through more efficient and relevant

Web address:

www.derby.ac.uk/computing/disys



Andreas (left) at work with members of his team

may also have serious environmental benefits. Looking at energy usage across the University, Andreas is also in the early stages of developing an application that monitors a computer's CPU usage and diverts processing power not used on one computer to a computer carrying out demanding tasks; such as rendering images in computer games design. In addition, idle computers can also be turned off remotely through the same application to conserve energy.

service delivery.

- As part of an international consortium (funded by the EU's Seventh Framework Programme for Research and Technological Development) **Professor Nik Bessis** is jointly investigating the development of an open source library for the visualisation of and interaction with multi-scale biomedical data.
- **Professor Nikolaos Antonopoulos** delivered a keynote speech in Rome, Italy (IADIS-2010); Professor Nik Bessis delivered three keynote speeches in Cracow, Poland (CISIS/ARES-2010), Istanbul, Turkey (ICADWIT-2010) and Florence in Italy (IARIA-2010); and **Dr Richard Hill** delivered a keynote at the Indo-US Higher Education Summit (2010).
- Professor Bessis, Dr Hill and **Dr Zaigham Mahmood** have organised and/or chaired 14 conferences, workshops or conference tracks.
- DISYS organised a business to computing showcase. This event was aimed at attracting local and regional companies towards identification of possible collaborations that could lead to funded projects, through KTP and TSB channels. This was a collaborative effort with the University's Business Development Unit.

□ Recent publications/conferences/exhibitions

▶ Antonopoulos, N. and Stafrace, S. (2010). Intrusion Detection and Recovery in Wireless Sensor Networks through the Deployment of Tactical Mobile Agents, *Journal of Computer Communications* 2010: 619-638.

▶ Bessis, N. and Xhafa, F. (Eds). Next Generation Data Technologies for Collective Computational Intelligence, (book series) Studies in Computational Intelligence, Springer, Vol. 352, April 2011.

▶ Bessis, N., Huang, Y., Norrington, P., Brown, A., Kuonen, P., and Hirsbrunner, B. (2011). Modelling of a Self-led Critical Friend Topology in Inter-cooperative Grid Communities, *International Journal of Simulation Modelling Practice and Theory*: Vol. 19 (1): 5-16.

Conference Papers:

▶ Hill, R., Antonopoulos, N. and Bessis, N. (2011). Towards an Understanding of Peer Rationality and CI, *5th International Conference on Complex, Intelligent and Software Intensive Systems (CISIS)*, Seoul, South Korea, June 30-July 2, 2011.

▶ Liu, L., Webster, D., Xu, J. and Wu, K. (2010). Enabling Dynamic Workflow for Disaster Monitoring and Relief Through Service-Oriented Sensor Networks, *Proceedings of CHINACOM*, Beijing, China, IEEE Computer Society Press, August 2010.

Electrical, Electronic and Software Systems

▷ **Vision:** The Group formed in December 2010 from the division of the former Signal Processing Applications Research Group (SPARG). It exploits the close links between the electrical, electronic and software systems fields; undertaking research within these interconnected fields and developing commercial outcomes.

○ Case Study

Optical fibres transmit phone, TV and internet signals at light speed.

Dr Ahmad Kharaz's work adapts this technology to provide a range of low energy sensors which detect temperature, humidity, pollution, chemicals and other physical quantities.

Current research focuses on distributed optical fibre humidity sensors. A powered monitor attached to one end of an optical fibre is inserted into an environment to detect humidity levels in air and other gases. The fibre's whole length acts as a sensor, allowing humidity to be measured and detected at any point. It is the equivalent of having over 1,000 individual sensors.

This distributed sensing capability is only possible with optical fibres, not conventional electrical sensors.

Ahmad, a University Reader in Intelligent Instrumentation, said: "Optical fibres are designed to transmit light signals at extremely high speeds with no interference, across a huge bandwidth. We can use that characteristic of light by having sensors which detect when a signal along the fibre is disrupted or deflected, for example by humidity.

"This can be done using a very small amount of

○ Research Round-up:

Research Group members: Tim Wilmshurst, Dr Ahmad Kharaz, Dr Amar Bousbaine, Dr Mahmoud Shafik, Dr John Redgate, Barry Mills, Simon Lewis, Kristian Lane, Dave Wilson.

- **Electrical Energy, Efficiency and Sustainability:** The efficient processing and application of electrical energy is a central focus, for example in micro-hydro power generation and the capture of solar energy. Means of optimising energy efficiency have been developed, using infra-red imaging techniques.
- **Embedded Systems:** The main interest is in small-scale embedded systems, characterised by constrained resource and low power consumption. Mathematical models for power consumption in low-power systems have been developed.
- **Engineering Education:** Members are active in advanced educational practice, for example in internet-enabled engineering experimentation. This has led to textbook and conference

Web addresses:

www.derby.ac.uk/research/research-centres-and-groups/the-electrical-electronic-and-software-systems-research-group



Students and staff watch the annual Derbot challenge

energy, safely and from a distance of half a kilometre or more."

Practical applications could include the ability to detect unwanted levels of water vapour in gas wells. There has already been commercial interest.

"We need to work on the prototype sensors we have to make them more robust for industrial settings in future," added Ahmad.

He also leads on two 'intelligent power' quality projects, aiming to provide better electrical power management and save energy.

□ Recent publications/conferences/exhibitions

Abou-arkoub, A., Thorn, R., and Bousbaine, A. (2010) Online Validation of Multiphase Flowmeters Using Simple Capacitance Sensors, *IEEE Transactions on Instrumentation and Measurement*, 8 April 2010.

Redgate, J., Al-Habaibeh, A., Su, D., Wilmshurst, T. and Rudd, J. (2011) Evaluation of Component Reliability using Data Derived from Infrared Thermography, *Key Engineering Materials* Vol. 450: 275-278.

Shrud, M. A., Kharaz, A. H., Ashur, A. S., Faris A. and Benamar, M. (2010) Analysis and Simulation of Automotive Interleaved Buck Converter, *World Academy of Science, Engineering and Technology* 63, March 2010.

Shrud, M. A., Kharaz, A., Ashur, A. S., Shater, M. and Benyoussef, I. (2010) A Study of Modeling and Simulation for Interleaved Buck Converter, *1st Power Electronic and Drive Systems and Technologies Conference (PEDSTC)*, Tehran February 2010.

Knowledge Transfer Programme: University of Derby, Davis Derby Ltd., KTP Programme KTP7329, September 2009 - August 2011, £119,650.

paper publication.

- **Optics and Acoustics:** Study has been made of the acoustics and acoustic treatment of historic buildings, for example, old churches. Advanced video and optical systems have been developed and applied in entertainment applications.
- **Power Electronics:** Expertise lies in novel applications of Insulated Gate Bipolar Transistors and similar devices, thermal modelling, and other simulation techniques. The processing of solar energy and motor vehicle electronics are important applications of this.
- **Sensors and Actuators:** Expertise lies in intelligent, novel, and distributed sensing, for example distributed optical fibre sensor systems. The group fabricates its own optical fibre sensors. Novel piezo-electric actuators have been developed, in part for medical applications.
- **Digital Signal Processing:** Emphasis is on real-time systems, with the development of fast real-time DSP algorithms.

Human and Physical Environments

▷ **Vision:** This Group provides the focus for a diverse range of applied research; enriching undergraduate and postgraduate teaching on the natural behaviour of the Earth system, the impact on the physical environment of human activities, and society's response to climate and environmental change. The Group also undertakes a wide range of consultancy work through the Centre for Land Evaluation and Management.



The devastating effect of climate change

○ Case Study

People's real life experiences of climate change are being detailed as part of a research project involving partnership between the Open University (UK), the University of Derby and a consortium of other European universities from Germany, Spain, Holland, Portugal and Belgium. This is through significant external funding secured by Derby's **Dr Dina Abbott** from the European Funded ERASMUS scheme for an exciting research project entitled: *The Lived Experiences of Climate Change*.

The consortium first came together at the KU Leuven university, Belgium to put the application together and then developed a website (www.leche.open.ac.uk) to publicise the project, and coordinate and peer-review the development of world-class MSc e-learning modules for climate change. Alongside this, it established virtual learning portals for EU citizenry. The portals include a virtual classroom for students, their tutors and supervisors, and a virtual café.

The project is being piloted on the Virtual Community for Sustainable Europe website

(www.vcse.eu) and has attracted high calibre students who are climate change practitioners.

Partner universities have also presented findings at prestigious international conferences – for example, in Athens and Switzerland – and published papers resulting from this. A special international science journal issue on the *Lived Experience of Climate Change* to be co-edited by Dina and Dr Gordon Wilson (OU, UK) has been agreed upon.

The pilot has also already generated a wider social and community impact. The Nairobi Work Programme (NWP) of the United Nations Framework Convention on Climate Change (UNFCCC) Secretariat recently invited project members to partner with them for future developments.



Delegates at KU Leuven, Belgium

□ Recent publications/conferences/exhibitions

Book:

▶ Fox, H.R. and Moore, H. (2010) *Restoration and Recovery: Regenerating land and communities* Dunbeath: Whittles Publishing.

Journal Articles:

▶ Kalavrouziotisa, I.K., Koukoulakis, P.H., and Mehra, A. (2010) Quantification of elemental interaction effects on Brussels sprouts under treated municipal waste water, *Desalination*. Vol. 254: 6-11.

▶ Rollinson, H.R. and Whitehouse, M.J. 2011. The growth of the Zimbabwe Craton during the late Archaean: a new zircon U-Pb ion-microprobe study, *Journal Geological Society of London*. Vol. 168: 1-12.

▶ Williams, M., Nelson, A.E., Smellie, J.L., Leng, M. J., Johnson, A.L.A., Jarram, D. R., Haywood, A.M., Peck, V.L., Zalasiewicz, J., Bennett, C. and Schöne, B.R. (2010) Sea ice extent and seasonality for the Early Pliocene northern Weddell Sea determined from fossil *Austrochlamys* bivalves. *Palaeogeography, Palaeoclimatology, Palaeoecology*. Vol. 292: 306-318.

need modification.

- **Peter Jones** and **Vanessa Banks** are currently undertaking research assessing the characteristics and spatial distribution of cemented gravels and breccias, to confirm their potential as indicators of climate and environmental change in the Peak District.
- **John Stubbs'** research is currently focused upon the revival of rail transport after a decline in the 20th century and factors leading to this. The data generated will be used to shed new light on the factors driving regional and global-scale growth in rail transport, and allow more realistic predictions of longer term growth trends in passenger numbers.
- **Hugh Rollinson's** research seeks to build geochemical models of the continental crust sampling in the upper, middle and lower crust; to evaluate existing crustal evolution models. The outcomes of this current research will be:
 - the development of a new approach to analysing crustal elements
 - the generation of reliable and precise data sets
 - greater potential for resolving 'old' problems relating to continental crust.

Web addresses:

www.derby.ac.uk/research/research-centres-and-groups/human-and-physical-environments-research-group

Law in Society

▷ **Vision:** The Group encompasses various areas of legal and criminological research dealing with the establishment of law; the application and upholding of relevant legal principles within the context of justice, society and commerce; and the development of law in the future. Group members have published in the fields of information, comparative and mental health law, the role of legal education, data protection and interviewing suspects.

○ Case Study

The evolution of countries from the traditional imperialist model of the 'nation state' to 'post-nation states' is the little researched line of enquiry pursued by **Dr Antonios Platsas**, University Reader in Comparative Law.

He suggests that as older states, like the UK and major European countries, have matured they've moved from a fixed idea of national sovereignty to that of post nation states more "cosmopolitan" in outlook.

This shift sees countries increasingly willing to devolve policy decisions to international bodies of which they are members and abide by them. For example, on environment (through the Kyoto Protocol), finance (the G8 summits) and law (Court of Human Rights).

Antonios said: "A good example is European nations' willingness to follow legal decisions made by the Court of Human Rights in Strasbourg. Nowadays they would have to follow its directions but, in a post nation state environment, they would also be expected to do so to avoid international criticism."

He added that the reverse of this was seen when newly formed nation states adopted the traditional model of national sovereignty, to establish a stronger identity.

Antonios presented his paper *The Fading Colours of the Nation State and the Rise of the Post Nation State* at the British branch of the International Law Association's conference, at the University of Sheffield, in April (2011). It and other papers will be collected for an academic monograph, under the direction of Sheffield's Professor Duncan French.



Dr Antonios Platsas in the Courtroom at the University's Kedleston Road site.

○ Research Round-up:

Members: Dr Husam Botosh, Dr Antonios Platsas, Dr David Walsh, Dr Helen Clarke, Dr Sam King, Jamie Grace, Sarah Pemberton, Angie Neville, Karen Clubb, Jo Drummond-Child, Katerina Georgiadou.

- **Dr Husam Botosh** is looking at the application of law in Middle-East countries and is currently engaged in research that examines 'cross-border insolvency' from an international perspective.
- **Dr Sam King** is looking at reducing criminal re-offending. His current research interests are concerned with the related topics of desistance, probation and offender management.
- **Jamie Grace** continues to work on his programme of doctoral research and act as advisor to the University on issues of privacy, data protection and freedom of information. He has organised 15 related events across the year for the research group.
- **Sarah Pemberton** is investigating the (mis)understandings of sexual consent and refusal in convicted adult rapists by examining

the ways offenders discursively comprehend and negotiate sexual consent, within their offending behaviour but also within their own non-offending sexual experiences. The research also examines the ways offenders draw on shared cultural accounts and rape myths in order to account for their conduct. This summer (2011), Sarah Pemberton will conclude her PhD research examining the motivation of sexual offenders, told from the perspective of jailed offenders she has interviewed.

- **Karen Clubb** is looking into the misuse of alternative remittance systems for money laundering, for the purpose of terrorist finance. This research aims to critically evaluate the legislative and regulatory framework for the prevention of money laundering, and suppression of terrorist finance in the UK, and investigate the impact of regulation on UK money service businesses.
- **Jo Drummond-Child** is in the early stages of her doctoral research, examining evidential issues regarding digital evidence.

□ Recent publications/conferences/exhibitions

- ▶ Blagden, N. and Pemberton, S. (2010) The challenge in conducting qualitative research with convicted sex offenders. *Howard Journal of Criminal Justice*, Vol. 49(3): 269-281.
- ▶ Botosh, H. (2011) The implications of the cheque issuing date in light of trade law provisions and the high court decisions: A comparative study between Jordanian and English Law. *Arab Law Quarterly*, Vol. 25(2): 147-176.
- ▶ Platsas, A. (2010) Making our Law Students Comprehend Foreign Legal Terminology: The Quest for Identifying Function, Context, the Semainon and the Semainomenon in the Teaching of Comparative Law, *Comparative Legilinguistics*, Vol. 2: 105-117.
- ▶ Walsh, D. and Bull, R. (2010) Interviewing suspects of fraud: An analysis of interviewing skills. *Journal of Psychiatry and Law*, Vol. 38: 99-135.
- ▶ Walsh, D. and Bull, R. (2010) The interviewing of suspects by non-police agencies: What's effective? What is effective! *Legal and Criminological Psychology*, Vol. 15: 305-321.

Web addresses:

www.derby.ac.uk/research/research-centres-and-groups/the-law-in-society-research-group

Mechanical/Manufacturing Engineering and Industrial Design

▷ **Vision:** Research activities within the Group focus on areas such as manufacturing techniques and systems, computational fluid dynamic and finite element analyses, manufacturing management systems, and industry robot and intelligent systems. The industrial application of the related projects is a strong focus of its members.

○ Case Study

Research by **Dr Jose Arturo Garza-Reyes** and **Dr Patrick Barber** looks at increasing the efficiency of production and operations management, processes and performance in the workplace.

Patrick, Senior Lecturer in Manufacturing Engineering, said: "Our work, together and separately, has a strong practical basis. Much of it involves Knowledge Transfer Partnerships (KTP), where an organisation or company approaches us to address inefficiencies they've identified."

"Often it involves re-balancing 'work flow'. For example, giving employees at different stages of a manufacturing process approximately the same amount of work to do, so that very quick parts of a whole process aren't followed by slower ones which cause delays."

One typical two-year project, initiated by Jose but developed with Patrick's input, focused on analysing and improving the work flow and production process of a UK company building park homes or 'mobile homes'.

Analyses of the factory site were undertaken, including an empirical study of production times,



Dr Patrick Barber and Dr Jose Arturo Garza-Reyes showcase a machine testing manufacturing efficiency.

and seven discrete event simulation models were developed to test different options for changing working methods.

Jose, Lecturer in Manufacturing Engineering, said: "By combining the time study, discrete event simulation, and trial and error methods a reduction of between 1.8% and 36.3% in balancing losses in various sections of the park homes process was achieved."

"The outcome and results obtained from this research project are currently helping the organisation save around £30,000 a year in productivity gains."

The project's research methodology is due to be published in the international *Journal of Manufacturing Technology Management* publication this year (2011).

□ Recent publications/conferences/exhibitions

- ▶ Chen, J., Wu, M.H. and Oraifige, I. (2010) Investigate an intelligent supplier evaluation system in e-manufacturing, *International Journal of Internet Manufacturing and Services* Vol. 2 (3-4): 281-293.
- ▶ Garza-Reyes, J.A., Eldridge, S., Barber, K.D., Soriano-Meir, H. (2010) Overall Equipment Effectiveness (OEE) and Process Capability (PC) measures – a relationship analysis, *International Journal of Quality and Reliability Management* Vol. 27 (1).
- ▶ Oraifige, A., Wu, M., Mills, B., and Oraifige, I. (2011) An Online Intelligent System for teaching Design Technologies to Engineering Students, *Journal of the Higher Education Academy, Engineering Subject Centre* Vol. 6 (1), June 2011.

Conference papers:

- ▶ Chen, J., Zhang, W. and Wu, M. H. (2010) Investigation of the Input Variables Treatment for BP NN Based Supplier Evaluation Model, *International Conference of FAIM2010*, Oakland, USA 2010.
- ▶ Sugiono, S., Oraifige, I. and Wu, M. H. (2010) Taguchi Method Based Basic Car Body Optimization, *ICAC2010*, Birmingham, UK, 2010.
- ▶ Sugiono, S., Oraifige, I. and Wu, M. H. (2010) Developing the Database for Vehicle Shape Design with the Less of Aerodynamics Resistance and Vibration, *IV European conference on Computational Mechanics (ECCM 2010)*, Paris, France, 2010.

rather than relying on the satellite reception used by GPS, the system will continue to work in out of frequency areas such as tunnels. It can also be updated quickly for short term changes in the speed limit, such as at roadworks, keeping drivers informed at all times.

- Derby is also collaborating with Loughborough University on an intelligent valve development project.
- This is linked to the idea of 'intelligent house' central heating systems, which can be used to save energy. The intelligent valve will open and close according to the set up temperature and be powered by a heat/electrical converter.
- A collaborative PhD project with Essex University is looking into how an artificial neural network model can be used to control the non-linear, multi-variable flying states of an X4 miniature helicopter. The aim is to achieve the right fly path of the X4 helicopter through a series of complex weather conditions.

○ Research Round-up:

Members:

Prof Mian Hong Wu, Dr Ilias Oraifige, Dr Dani Harmanto, Dr Amal Oraifige, Dr John Robertson-Begg, Dr Patrick Barber, Dr Jose Arturo Garza-Reyes.

- The group is working with Loughborough University, and companies CLC(UK) Ltd of Loughborough and IDC Ltd of Derby, on a driver behaviour monitoring system. Funded through an £83,000 i-Net Transportation Project grant the project is developing an in-car device to alert drivers who exceed the speed limit and improve road safety. It uses a radio frequency identification (RFID) system collecting speed limit data through radio waves. Microchipped transmitters on road signs relay information to in-car readers, which notify drivers if their speed goes above the speed limit. The system works in real time, providing drivers with up-to-date information about changes in speed limits. As it uses radio waves,

Web addresses:

www.derby.ac.uk/research/research-centres-and-groups/mechanical-manufacturing-engineering-and-industrial-design-research-group

Society, Religion and Belief

▷ **Vision:** A Group of expert researchers and consultants who specialise in the study of religions, beliefs and values; and their changing significance for individuals and groups, organisations and institutions in contemporary societies.

Its aim is to understand, account for and explain the range of traditions, beliefs and values that people adhere to and utilise in their everyday lives and relationships. We have an established international reputation for research into the areas of religious discrimination, feminism, gender and religion, and the analysis of sacred texts in society and culture.



Leicester High Street Mela event 2010 (picture courtesy of Leicester City Council marketing and brand management).

○ Case Study

Professor Paul Weller is leading a three-year academic study investigating how attitudes and experiences of different religion and belief groups in England and Wales have evolved since 2000, in the light of changes that have taken place during this period in the law, and among religions and in society.

He is the study's Principal Investigator, working with academics from the University of Oxford and the University of Manchester on the three-year study entitled: *Religion and Belief, Discrimination and Equality in England and Wales, Theory, Policy and Practice, 2000-2010*.

The study has been funded by the Arts and Humanities Research Council (AHRC), and the Economic and Social Research Council (ESRC), and is part of the joint Religion and Society research programme.

Also on the research team is Dr Nazila Ghanea, Lecturer in International Human Rights Law and a Fellow of Kellogg College at the University of Oxford, and Dr Kingsley Purdam, Research Fellow in the Cathie Marsh Centre for Census and Survey Research at the University of Manchester.

As part of the research process **Dr Sariya Contractor**, is visiting different places around the UK to capture views on and experiences of equality and discrimination regarding religion or belief. Locations include Leicester, Cardiff, Blackburn, Newham in London and Norwich.

The latest study will build on previous Home Office commissioned research led by Derby (1999-2001) entitled: *Religious Discrimination in England and Wales*. It found evidence of unfair treatment in education, employment and the media; particularly as reported by Muslims, Sikhs and Hindus.

○ Research Round-up:

Members:

Principal Researchers: Dr Kristin Aune, Dr Victoria Carpenter, Prof David Chalcraft, Prof Susan Hogan, Prof Paul Weller.

Researchers: Dr Caroline Simone, Dr Rebecca Barnes, Dr Nick Cimini, Dr Frank Faulkner, Dr Philip Henry (Associate Lecturer/Head, MFC), Dr Rebecca Watson (Visiting Fellow in Biblical Studies, non-stipendiary), Dr Peter Wiltshier, Dr Simon Speck.

Associate Researchers: Jamie Bird, Dr Linda Stanier: (PhD Students): Lisa Taylor Clarke, Kate McKay, Gillian Jones, Frauke Uhlenbruch, (Gary Nash), (Paula Parish West), Naomi Jacobs, Dr Peter Shepherd, Gill Bunce, Joseph Maslan, Daniel Joseph, Hansa Jethwa, Drew Bird, Catherine Williams.

- **Dr Kristin Aune** – Religion, feminism and gender-based studies: *Evangelical Christianity and Women's Changing Lives*.
- **Dr Victoria Carpenter** – Latin American studies: *Hegemonic Masculinity and Text Ownership in the Works of Mexican Onda*.
- **Professor David Chalcraft** – Classical Sociology: *Why Hermeneutics, the Text (s) and the Biography of the Work Matter in Max Weber Studies*.
- **Professor Susan Hogan** – Older women challenging stereotypes, studies of self image: *Look at Me! Working With Older Women to Represent Images of Ageing*.
- **Professor Paul Weller** – Religious Diversity, Discrimination and Equality in the UK. (See case study above).

Web addresses:

www.derby.ac.uk/research/research-centres-and-groups/the-society-religion-and-belief-research-group

□ Recent publications/conferences/exhibitions

- ▶ Aune, K. (2008) Evangelical Christianity and Women's Changing Lives, *European Journal of Women's Studies*. Vol. 15 (3): 277-294.
- ▶ Chalcraft, D. (2008) Why Hermeneutics, the Text (s) and the Biography of the Work Matter in Max Weber Studies, in Chalcraft, D; Howell, F., Lopez-Menendez, M. and Vera, H. (Eds.), *Max Weber Matters: Interweaving Past and Present*. Basingstoke: Ashgate: 17-40.
- ▶ Hogan, S. (2008) The Beestings: Rethinking Breast-Feeding Practices, Maternity Rituals, and Maternal Attachment in Britain and Ireland, *Journal of International Women's Studies*, 10 (2): 141-160.
- ▶ Moore, N. Hooley, T. and Weller, P. (2011) *Religion or Belief in Higher Education: the Experiences of Staff and Students*. London: Equality Challenge Unit.
- ▶ Weller, P. (2010) The Clash of Civilisations Thesis and Religious Responses, *European Journal of Economic and Political Studies*, Vol. 3 (1): 83-100.

Cardiff is among the research locations (aerial picture courtesy of www.visitcardiff.com).



Systems Thinking and Organisational Change

► **Vision:** To conduct and disseminate research at a level of national and international recognition, to inform and develop the curriculum through research, and to engage with local business communities and seek opportunities for collaboration. Also, to grow our community of researchers and to seek out funding opportunities to help us develop.

○ Case Study



Student nurses in the Clinical Skills Suite

by the Derby Royal, as it developed and successfully implemented its integrated diabetes care model, and carried out interviews with all of those involved. They then developed 'the TONIC model for examining public sector change'.

Gino added: "As we evaluated how Derby's diabetes care team developed their new pathway, we

After being approached by Dr Garry Tan of Derby Royal Hospital, **Gino Franco** along with the University's **Professor Barbara Dexter**, used their expertise to evaluate the remodelling of the healthcare pathway taken by Derby's diabetes patients.

Gino, Senior Lecturer and Programme Leader for the MBA (part-time) in the Derbyshire Business School, said: "As I have diabetes the work that Dr Tan was doing to improve the care pathway for diabetes patients interested me personally as well as professionally. I myself had experienced difficulty navigating a disjointed system that had evolved historically around changing organisational structure and priorities, rather than one designed around patients' needs."

Gino and Barbara investigated the process taken

○ Research Round-up:

Principal Researchers: Dr John Chamberlin, Dr Barbara Dexter, Joseph Marshall, Prof John Seddon (Visiting Professor), Dr David Longbottom.
Researchers: Gino Franco, Dr Christine Jones and Simon Smith.

Associate Researchers: Charles Hancock.

Through numerous real world research projects, the SYTOC research group is furthering knowledge of systems thinking by looking at public and private sector organisations in a holistic way.

The strands of research being carried out by the group's core members were presented at its 2011 Research Conference in April; as well as at evening and afternoon events before invited guest speakers Dr Emma Langman, Professor Mike Jackson and **Professor John Seddon**.

Joseph Marshall's research, published as a

Web addresses:

www.derby.ac.uk/research/research-centres-and-groups/systems-thinking-an-organisational-change-research-group

witnessed how they used principles from systems thinking intuitively. The TONIC model is our understanding of the factors that brought about this public sector change successfully, namely: **Timing**, **Organisational activity**, **National policy drivers**, **key Individual actors** and their **Connectivity**."

Gino and Barbara hope the TONIC model stimulates further research, and that its wider applicability in the public sector is tested.

The research has been submitted to the *European Academy of Management's Journal European Management Review*, and also to the 18th Annual Multi-Organisational Partnerships, Alliances and Networks (MOPAN), taking place in July 2011.

chapter in the book *Systems Thinking: From Heresy to Practice*, reported on the progress of a three year project looking at the impact and sustainability of a number of systems thinking interventions in one of the largest housing associations in England.

A paper by **John Chamberlin**, published in the *Management Services Journal*, reported the results of research into the attempts of two public sector/local government organizations to implement business process re-engineering (BPR) within their organisations. The research focused on issues relating to – amongst others – empowerment, command and control, and defensive reasoning. It concluded that there can be no successful change initiative in any organization without the presence of effective leadership.



Gino Franco

□ Recent publications/ conferences/ exhibitions

- Chamberlin, J. E. (2010) Business Process Reengineering: a retrospective look – Part 2, *Management Services Journal*, Spring, 13-20.
- Dexter, B.P. (2010) Critical success factors for developmental team projects, *Team Performance Management*. Vol. 16 (7/8): 343-358.
- Longbottom, D., and Hilton, J. (2011) Service Improvement: lessons from the UK Financial Services Sector, *International Journal of Quality and Service Sciences*. Vol. 3 (1): 39-60.
- Longbottom, D., Hilton, J. and Lawson, A. (2011) The Role of Deep Emotions in Service Re-design: a review of literature and a survey of critical factors, *Academy of Marketing Conference*. 4 July 2011.
- Longbottom, D., Hilton, J., and Zheng, V. (2011) Real Service Improvement: Lessons from the UK Banking Sector, in Seddon, J. (Ed) *Systems Thinking: From Heresy to Practice*. Basingstoke: Palgrave Macmillan: 177-199.
- Marshall, J.M. (2010) Organisational Change: Evaluating Systems Thinking in the UK Housing Sector-A Work in Progress, in Seddon, J. (Ed) *Systems Thinking: From Heresy to Practice*. Basingstoke: Palgrave Macmillan: 125-135.

Academic Practice Focus

Introduction by **Dr Ruth Ayres**, **Dean of Learning Enhancement and Innovation**.

A major area of work across the University is related to academic practice and improving links between teaching and research; increasing opportunities for continuous professional development, and promoting interdisciplinary and inter-professional working.

The University supports its academic staff in this area in a number of ways. A new Research for Learning and Teaching Fund (which has

replaced the former promising researcher, TIR and RICF funds) with a total value of £225,000 has been made available for research that benefits student teaching and learning at the University. Individual, joint or group applications may be submitted, together with cross-faculty and faculty/service department proposals.

A Writing Retreat held at Scaford Hall, Leicestershire, in April enabled staff members to use the three days as dedicated, protected time for writing for publication (i.e. conference papers/ books/ journals, etc) to contribute ultimately towards the University's REF

submission. Thirty members of staff attended.

The 2011 Annual Learning and Teaching Conference entitled *Learning @ Derby: The Future Direction* was held at the Buxton Campus on 7 July, 2011; providing an opportunity for colleagues to share pedagogic research, examples of good practice and discuss the future direction of learning and teaching.

The following recent projects highlight how technology is being used to enrich the curriculum for the future:

Classroom Of The Future

The 'classroom of the future' is being used now at the University's Kedleston Road site.

Room B226 in B Block is an attempt to redefine the way the traditional classroom works. There is no 'podium' or other focal point where a lecturer stands to address students and the space also features a wealth of new features including:

- five plasma TV screens with full internet access and a projection screen
- six learning zones, with easily movable tables and chairs
- glass walls which can be written on.

The project has been led by the Learning Enhancement and Innovation (LEI) department, in partnership with Estates and IT Services.

Simon Birkett, Head of the Centre for Educational Development and Media in LEI, said: "It's not about the lecturer standing at the front of the class and dispensing information to the students, it is a space that allows more flexible and innovative practice; encouraging active learning, peer to peer and experiential activities.

Pro Vice-Chancellor Liz Barnes added: "This project is all about thinking and teaching differently, with greater interaction and immersion in the learning process."



Power of Skype



Academics at the University are harnessing the technology of Skype – the video/voice internet system – to capture the imagination of school pupils.

The cutting-edge work has been undertaken by academics including Dr Des Hewitt, Mabel Ann Brown and Jo Baines (of the School of Education and Social Science); and Charlie Davis (the Learning Technology Team).

Mabel Ann and Charlie have built international links to encourage children to exchange cultural, geographical and scholastic information; using a range of technologies in order to inform each other. Since September 2010, they have worked with St Mary's RC Primary School in Loughborough and Grundschule Am Albertschacht in Freital-Wurgwitz, in Germany, and explored how the physical boundaries of two learning environments could be extended to create one universal space. This helped them to demonstrate that there is a role, both at home and abroad, within higher education for Skype;

as what can be achieved with young children can also be achieved with older people.

Skype is normally used to facilitate voice communication over the internet, like a telephone call. However, over the past few months, Des, Mabel Ann, Charlie (of the TIR group) and Jo have been using it to take learning outside the walls of the traditional classroom under the (TIR) Skype for Learning Project. Lessons have been delivered to a number of schools including a group of pupils at Ashby CofE Primary School in Leicestershire. For some history classes, the academic staff have donned period outfits to bring the lessons to life.

The team has been developing a range of different uses for the technology in order to create good practices that prepare students for life as a 21st Century educational practitioner. Des, Charlie and Mabel-Ann are working jointly on the TIR-funded project to take this work forward.

UDORA - University of Derby Online Research Archive

The University of Derby recently held a pilot project briefing day, informing researchers about the new UDORA repository.

The day was hosted by Richard Finch, Academic Services Manager for the University Library, and Melanie Keady, E-Resources Development Manager.

The event presented the benefits of an open

access repository and also included a demonstration of the system.

An institutional repository or digital archive is intended to capture, store and preserve the University's research output and to make it available to the research community through Open Access protocols.

Copyright issues and publishers' policies had

been identified as a primary concern for participants, so informative guidance about general open access was provided to delegates.

This is a pilot project and UDORA's official launch will be later this year. For more details visit websites: <http://pilot.openrepository.com/derby/> or www.openrepository.com



Research Office,
University of Derby,
Kedleston Road,
Derby DE22 1GB

T: +44 (0)1332 591060
F: +44 (0)1332 597761
E: researchoffice@derby.ac.uk
www.derby.ac.uk

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