



Research at BU

Research at Bournemouth University (BU) is organised around eight society driven research themes, which bring together our outstanding research talent to tackle some of society's key challenges and enrich the world in which we live.

We are keen to collaborate with other institutions to undertake research to identify solutions to the challenges faced by society, and through our research themes we aim to provide you with an opportunity to view our portfolio of expertise.

To make an informal enquiry contact our Research & Knowledge Exchange Office:

Telephone: +44 (0) 1202 961200

Email: RDU@bournemouth.ac.uk



BU's National Centre for Computer Animation (NCCA), established in 1989, is a world leader in computer animation and was the recipient of a Queen's Anniversary Prize in 2012 for its innovative education and approach. A recent NESTA report (2011) showed that nearly 50% of graduates working in the film, visual effects or video games industries come from Bournemouth University, and described BU as a "global leader in education and research in computer animation and visualisation". Digital media production is also one of BU's strengths and our staff range from artists to computer scientists. We have a reputation within software systems and artificial intelligence linked to data mining of the ever growing digital archive.

The NCCA was rated '5' in RAE2001 and in RAE2008 70% of our overall profile was rated internationally excellent. The philosophy of the Centre is the pursuit of a mix of art and science. Jointly with the University of Bath, the NCCA hosts an EPSRC-funded Industrial Doctoral Centre, known as the Centre for Digital Entertainment. This project attracted £6.3million from the EPSRC with approximately a half-half split of funding between Bournemouth and Bath Universities.

Some notable examples of recent research projects include Yu and colleagues' work on foldover-free mesh deformation and Southern and Zhang's work on Least-Squares Meshes, You and Zhang's work on partial differential equation (PDE) based modelling and animation, which has appeared in over 40 journal papers over the last 10 years, and Zhang and colleagues' work on colorectal surgery simulation where sophisticated soft-tissue deformation models were developed, has received very positive feedback from the consultant surgeons from Bournemouth and Poole Hospitals. In collaboration with colleagues at University College London and the University of Lancaster, Zhang was awarded an EPSRC funded project to study the 'bystander effect' using animated virtual humans. Pasko is currently working on an Interreg project to study gesture-based sculpting for people with disability.

Summary of key research areas:

Computer animation plays a large part within this theme. Relevant research activities include:

- Computer animation and its applications;
- Technical research into novel algorithms and software tools for computer animation and visualisation;
- Production of animation artefacts and creative theories.

Key academics:

[Professor Peter Comminos](#)

[Professor Alexander Pasko](#)

[Professor Jian Zhang](#)

[Dr Valery Adzhiev](#)

[Dr Jian Chang](#)

[Dr Tom Davis](#)

[Mrs Vicky Isley](#)

[Dr Ian Stephenson](#)

[Mr Neal White](#)

[Dr Xiaosong Yang](#)

[Dr Lihua You](#)

[Dr Hongchuan Yu](#)



Our society faces many pressing challenges from cultural adaptation, identity and citizenship, to managing growing social and global inequality. In a time of economic, political and social uncertainty BU has researchers engaged in tackling issues of conflict, violence, security, welfare and social protection.

BU's Institute for Media and Communication Research (IMCR) has developed world class expertise in a number of specialist areas. These are politics and media, including the study of news; broadcasting history; and consumer culture; public relations; literature (mostly in the context of popular culture) and narrative; and media pedagogy. Some noticeable examples of recent research projects include Berger leading a BBC commissioned study of its Persian-language service, which will have considerable influence on strategic decision-making, and Thomas who recently received AHRC funding to research the impact of digital transformations on the reading process. Our Centre for Broadcasting History was awarded significant AHRC funding for its leading work on digital media archiving.

Archaeology research at BU has an international reputation for applied and field-based research demonstrated by a growing portfolio of internationally recognised, high-profile partnerships. Welham was Director of Survey and Co-Investigator on the AHRC funded Stonehenge Riverside Project and has also received AHRC funding to undertake research in Rapa Nui (in collaboration with UCL and University of Manchester). Welham's work on African archaeology at Songo Mnara, Tanzania is an AHRC/NSF funded joint venture with the University of York and Rice University, USA. Darvill and Gale have collaborated with Heritage Malta and the Römisch Germanische Kommission des Deutschen Archäologischen Instituts on the World Heritage Temple complexes in Malta. Hanson and Cheetham's work has an emphasis on the study of mass graves, working with policy makers and governments (e.g. Iraq), and the International Criminal Tribunal for the former Yugoslavia. Research by Bennett on the evolution of human locomotion has been funded by NERC and is internationally recognised having been published in *Science*.

Summary of key research areas:

Work within the media aspect of this theme focuses on corporate and marketing communication, journalism and communication, and media production. The main research activities in this area include:

- Political communication and news;
- Broadcasting history;
- Consumer culture;
- Narrative and contemporary literature studies;
- Public relations;
- Media pedagogy.

Key academics in media:

[Professor Stuart Allan](#)
[Professor Barry Richards](#)
[Professor Hugh Chignell](#)
[Dr Richard Berger](#)
[Dr Darren Lilleker](#)
[Dr Mike Molesworth](#)
[Dr Einar Thorsen](#)

Work within the field of archaeology, anthropology and forensic science has links to this theme. The main research activities in this area include:

- Prehistoric societies, environments and landscapes;
- Maritime and coastal archaeology;
- Forensic science;
- Anthropology;
- Bioarchaeology.

Key academics in archaeology, anthropology and forensic science:

[Professor Matthew Bennett](#)
[Professor Mark Brisbane](#)
[Professor Tim Darvill](#)
[Professor Holger Schutkowski](#)
[Dr Ian Hanson](#)
[Dr Kate Welham](#)
[Dr Amanda Korstjens](#)



Business innovation is key to our future economy. BU is committed to playing its part in helping with business start-ups and development of firms that have the potential to add real value in terms of revenue, jobs and innovative capacity.

BU is committed to applied business research that is of benefit to policy makers, government bodies, practitioners, and our future students, whilst developing the academic critical mass of the discipline. This is reflected by the Centre for Entrepreneurship which was established in 2011 to provide support to new businesses to help them develop and grow. BU has been proactive in the organisation of a number of events and conferences such as the Wellbeing, Family Business and Carbon Trading Conferences held in 2011. Piesse has been undertaking ESRC funded research to investigate the potential of the emerging economies as markets for UK exports and Homberg has been awarded funding from the British Academy to research public service motivation across Europe

The Centre for Intellectual Property Policy & Management (CIPPM) has attracted more than £500,000 in research council funding, including from the ESRC, AHRC, Leverhulme Trust, Arts Council, governmental departments and the European Commission. Kretschmer's AHRC funded project on Copyright History is jointly run with the University of Cambridge. Erickson and Homberg are currently working with the Intellectual Property Office on projects focused on parodies and copyright to inform the Hargreaves Review Implementation.

Summary of key research areas:

Work within this theme encompasses the fields of business and management, and law. The main research activities in these areas include:

- Accounting, Finance and Economics
- Human Resources and Organisational Behaviour
- Strategy and Marketing
- Intellectual property policy and management;
- Corporate governance and tax;
- Human rights law

Key academics:

[Professor Dean Patton](#)

[Professor Stella Fearnley](#)

[Professor Philip Hardwick](#)

[Professor Jenny Piesse](#)

[Professor Steve Letza](#)

[Professor Martin Kretschmer](#)

[Professor Stephen Copp](#)

[Dr Howard Davis](#)

[Dr Melanie Klinkner](#)

[Dr Gordon Liu](#)

[Dr Kristofer Erickson](#)

Environmental Change and Biodiversity



Green Economy and Sustainability



We have significant research strength in these two research areas which are intrinsically linked through shared expertise and resources.

Environmental change is applying increasing pressure to biodiversity, with alarming extinction rates reported worldwide. We are a world leader in understanding, managing and developing policy in the field of environmental conservation science. We undertake collaborative research measuring the value of biodiversity, monitoring past and predicting future environmental change, and understanding and predicting how biodiversity responds to environmental change. Our research comprises conservation ecology, social science, remote sensing, microbiology, parasitology and ecological modelling, and links biodiversity to environmental change from the individual organism to landscape scales.

A green economy offers a potential way forward in a context where sustainable development is critical for the future of the planet. Essentially a green economy aims to provide a low carbon, resource efficient, and socially inclusive future; the objective is to achieve poverty reduction and sustainable development by transforming economic activities. Approaches are therefore required that avoid degradation of natural resources and loss of natural capital, while alleviating poverty and achieving social justice.

Research has in these areas a strong international focus with a series of major multidisciplinary research projects funded by the EU, DEFRA, GEF, DFID and UNEP. These have involved collaborative partnerships with institutions drawn from countries in Latin America, Africa, Asia and Europe.

Summary of key research areas:

Work within the Environmental Change and Biodiversity theme focuses on the disciplines associated with conservation ecology and environmental sciences. The main research activities in this area include:

- Biodiversity conservation;
- Ecosystems;
- Conservation ecology and environmental sciences;
- Environmental management.

Work within the Green Economy and Sustainability theme focuses on the disciplines associated with sustainability, green knowledge and green technology. The main research activities in this area include:

- Carbon accounting and management;
- Ecosystem and biodiversity based products and services;
- Clean and efficient technology;
- Sustainable design;
- Environmental law;
- Green technology.

Key academics:

[Professor Adrian Newton](#)

[Professor Rudy Gozlan](#)

[Professor Richard Stillman](#)

[Professor Ralph Clarke](#)

[Professor Ross Hill](#)

[Dr Rob Britton](#)

[Dr Anita Diaz](#)

[Dr Dan Franklin](#)

[Dr Roger Herbert](#)

[Dr John Stewart](#)

[Dr Chris Shiel](#)

[Dr Kathy Hodder](#)



Behaviour and lifestyle are major contributors to ill health, disease and death; some are well known such as unhealthy diet and lack of exercise while others are less well known such as social isolation which is associated with increased risk of mental illness and coronary heart disease. With an ageing population, issues of dementia care and health and social care are of ever increasing importance. Our researchers and practitioners have a track record of making a difference in protecting and improving the quality of life for vulnerable individuals, while enhancing the health and wellbeing of society.

In RAE2008 40% of research activity for BU's School of Health and Social Care was rated internationally excellent. BU has attracted £1.5M for a wide-range of health research projects including collaboration from the Chief Scientist Office at the Scottish Executive, NIHR, ESRC and the NHS. Of particular note is van Teijlingen's research in Nepal to support the promotion of sexual and reproductive health to young people and Ashencaen Crabtree's collaboration with Parker which has explored the gender aspects and experiences of self and learning and examined cross-cultural learning experiences and ethnocentricity in students undertaking placements in Malaysia. Some notable examples of recent research projects in psychology include Elsley's research funded by the ESRC which examines aspects of feature binding in working memory and Bates' research into face processing recognition with a particular focus on prosopagnosia.

Our recently launched BU Dementia Institute (BUDI) aims to work with relevant parties across the south of England to increase the quality of care and support offered to people with dementia and their families. Funding has already been awarded by the NIHR, AgeUK and Bournemouth Borough Council to support research by the Institute.

Summary of key research areas:

Work within this theme has a broad focus across several disciplines within the fields of health and nursing, social work and social policy, and psychology. The main research activities in these areas include:

- Promoting public health and effective nutrition, and addressing social exclusion;
- Older people and marginalised groups and interagency working;
- Psychological interventions in chronic conditions;
- Socioeconomic investigation;
- Midwifery, maternal and perinatal health;
- Qualifying and post-qualifying social work practice and education;
- Visual cognition;
- Mental and physical wellbeing across the lifespan;
- Normal and abnormal early year's development.

Key academics:

[Professor Edwin van Teijlingen](#)

[Professor Jonathan Parker](#)

[Professor Anthea Innes](#)

[Professor Venora Hundley](#)

[Professor Sine McDougall](#)

[Professor Les Todres](#)

[Dr Sara Ashencaen Crabtree](#)

[Dr Heather Hartwell](#)

[Dr Sarah Bate](#)

[Dr Jane Elsley](#)

[Dr Julie Kirkby](#)

[Dr Samuel Nyman](#)

[Dr Jan Wiener](#)



Leisure, recreation and wellbeing are central features of national and international policies in the 21st century where resource use, the Big Society, resilience, work life balance, ageing populations, multiculturalism, localism and globalisation are under the spotlight.

BU is the editorial home of the *International Journal of Tourism Research*, *Tourism Economics*, *Perspectives in Public Health* and Elsevier's recently-launched *Journal of Destination Marketing & Management*. In recognition of its increasing research profile and academic reputation, through a substantial gift made to the School by John Kent, one of the world's leading entrepreneurs, the John Kent Institute in Tourism was established in November 2009. This Institute is committed to the further development of PhD study at BU.

Fletcher's work is based on pioneering studies on methodologies to determine economic impact models and his inclusion of environmental and forecasting models to facilitate tourism development and planning. Blake, Seetaram and Wanhill have contributed significantly to the development of this work through their outputs in CGE Modelling. Much of their output have been used to underpin reports published by the UK Government, including reports quoted in the House of Commons, with several models developed currently still being used to drive policy with HM Revenue & Customs, Department for Culture, Media & Sport, the Scottish Government, Government of Gibraltar, VisitScotland and Failte Ireland. Specific work by Blake was also instrumental in the development of the Tourism Competitiveness Monitor for the World Travel & Tourism Council, the development of which is continued and published by the World Economic Forum.

Shipway has been awarded two ESRC-funded projects; a Seminar Series on the social and cultural legacies of the London 2012 Olympics and an International Networking project on the subject of sport tourism which arose from the 1st Commonwealth Conference on Sport Tourism co-organised by BU and the Malaysian Ministry of Tourism.

Summary of key research areas:

Work within this theme focuses on tourism and hospitality research and event and sport research. The main research activities in this area include:

- Tourism economics and impact modelling;
- Tourism management, marketing and e-tourism;
- Transport and travel;
- Mobility and migration;
- Sport tourism, event impact and legacy, and event management;
- Disaster management;
- Market research for tourism and heritage organisations.

Key academics:

[Professor Adam Blake](#)

[Professor Alan Fyall](#)

[Professor Stephen Page](#)

[Professor Philip Long](#)

[Professor Dimitrios Buhalis](#)

[Professor John Fletcher](#)

[Dr Janet Dickinson](#)

[Dr Richard Shipway](#)

[Dr Debbie Sadd](#)



Sustained economic growth, prosperity and quality of life all need technological innovation. Good design allows us to work smarter, minimising our use of resource, and helping to sustain our environment. At BU we have a range of talented design technologists working on both academic and near-market products with world-class expertise.

In RAE2008 over one-third of research outputs in General Engineering were described as internationally excellent. The Oakland Ridge National Laboratories (USA) has identified the Sustainable Design Research Centre (SDRC) as European Leader in Tribology. The team has also been identified as a national key group by Imperial College London, in the *“Structure of UK Tribology (Research) in Universities”*. SDRC has recently approved the IMechE (Institution of Mechanical Engineers) Further Learning programme for industrial professionals seeking Chartered Engineer (CEng) registration. This signifies the Centre’s role in bridging the gap between research and education through professional practice. This puts BU the leading English university to offer such provision. The Design Simulation Research Centre (DSRC) has established a strong working relationships with key industries such as Airbus UK, BAE systems, AECC and Blatchford. DSRC has attracted substantial research funds from both industry and the EPSRC. The team is currently engaged in the scientific and philosophical debate with the IPC on the ethical inclusion of technology in disability sport.

Summary of key research areas:

Work within this theme encompasses the fields of computer science and informatics, and engineering. The main research activities in these areas include:

- Software systems engineering – systems-of-systems engineering, requirements engineering and process modelling;
- Security – information assurance, enterprise security and cybercrime;
- Cloud computing;
- Computational intelligence;
- Creative technologies;
- Sustainable design – tribology, engineering education and general design;
- Design simulation – computational and experimental mechanics, high value manufacture, and enabling technology;
- Smart technology – robotics, sensors and instrumentation, and medical engineering.

Key academics:

[Professor Mark Hadfield](#)

[Professor Siamak Noroozi](#)

[Professor Bogdan Gabrys](#)

[Professor Feng Tian](#)

[Dr Cornelius Ncube](#)

[Dr Keith Phalp](#)

[Dr Ian Swain](#)

[Dr Ben Thomas](#)

[Dr Zulfiqar Khan](#)

[Dr Jon Cobb](#)

[Dr Bryce Dyer](#)

[Dr Christos Gatzidis](#)