



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:

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BU 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. 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 and we are committed to unlocking the digital potential of businesses. Whether you need advice with animation, media production, website design, product design and development, marketing or communication we have practitioners and researchers able to help you.

Our innovative Mixtape short courses are designed to meet the needs of Media Professionals, for relevant, industry-focused and flexible professional development opportunities (www.bournemouth.ac.uk/mixtape).

Our well established Red Balloon media production service offers businesses expertise and skills in video, animation and interactive media (www.redballoon.co.uk).

Our Rock.Paper.Film studio specialising in creating animation, VFX and motion graphic content for cinema, broadcast, mobile, games and the web (<http://rockpaperfilm.wordpress.com/>).

Our Eye Tracking Consultancy offers advice to organisations on the usability, website trust and promotional effectiveness of their websites and also other promotional media, such as product and packaging design, poster advertising, and directional signage (www.bournemouth.ac.uk/eye-tracking).

Our Design Simulation service uses advanced simulation technologies to design, develop and test products in a virtual environment. This helps to reduce time and cost by minimising the number of unnecessary design iterations (www.bournemouth.ac.uk/dsrc).

Our innovative Creative Enterprise Bureau offers a range of cost-effective advertising, marketing, public relations and media communications services to organisations of all sizes (www.creativeenterprisebureau.com).

Our Enterprise Assurance and Security Consultancy provides expert awareness advice, training and graduate job placements to companies around the UK (<http://microsites.bournemouth.ac.uk/business-services/consultancy-and-funding/cyber-security/>).

Summary of key research areas:

- Computer animation and technical research into novel algorithms and software tools for computer animation and visualisation
- Digital media production
- Production of animation artefacts and creative theories
- Creative Design and virtual manufacturing processes
- Integration of sustainable development issues within advanced engineering components and systems



Globally and in the UK, societies, citizens and individuals are facing many pressing challenges from cultural adaptation, identity and citizenship, to managing growing social and global inequalities. In a time of protracted economic, political and social uncertainties BU has researchers engaged in tackling key societal issues. Taking an integrated, inter-disciplinary approach, which explicitly involves learning from past communities and peoples, we are looking to expand future research collaboration around such issues as:

- Sustainable growth & cultural transformation
- Cultural adaptation & globalisation
- Communication, culture and society
- Equality, diversity & governance
- Conflict, violence & warfare
- Welfare & social protection
- Roles of media in socio-cultural & political transformation
- Crisis management & disaster planning

Perceptions of conflict, vulnerability and the development of social welfare in the context of political violence and extremism forms part of our research theme's work, as has consideration of difference and diversity across cultures and communities whilst considering the implications of this for contemporary fluid communities. Research has been completed in respect of Central European, Southeast Asian as well as UK communities

Our internationally renowned Disaster Management Centre offers education and training to organisations in risk assessment and risk reduction, major incident management & business continuity, and disaster recovery. We also offer one-day major incident management workshops for school bursars, headmasters and deputy headmasters (www.bournemouth.ac.uk/disaster-management).

We have clusters of researchers exploring ways of deepening democracy through developments in political communication and in the production and consumption of news. There are also research groups investigating trends in consumer culture (especially in digital consumption), studying the histories of the media industries and the communication professions as a way of understanding their present state and possible futures, and researching cultural narratives.

The multiple facets of identity, social inequality, conflict, and resource availability are narratives with a long time depth. Archaeology and anthropology have the theoretical frameworks and analytical tools to detect and contextualise these for societies of the past and, by doing so, enrich the debate about some of the fundamental and universal themes of humanity. An understanding of such aspects in the past has repercussions for our perceptions of similar issues today and vice versa.

Contributions from 'Past Peoples and Societies' may develop around questions such as: What are the determinants of societal continuity and change and their effect at the level of individuals and communities? How does adaptation reflect the dual, biocultural nature of humans? How do population development, migration and transitions shape communities and cultures? What is the impact of human-environment interaction and technological response?

The National Centre for Post-Qualifying Social Work is at the forefront of post-qualifying social work educational provision in England, working in partnership with 80 local authorities. We are one of the few CPD providers endorsed by The College of Social Work (TCSW) to provide post-qualifying social work education. We offer a range of CPD programmes in specialist areas such as Child Care, Vulnerable Adults, Approved Mental Health Practice, Practice Education, and Leadership and Management, and are committed to developing excellence in post-qualifying education, practice development and research. We undertake research and evaluation studies for a range of local, regional and national bodies (www.ncpqsw.com).



The theme provides a multi-disciplinary forum for researchers and practitioners in the field of entrepreneurship and organisational development and how such agencies impact upon local, regional and national contexts.

Entrepreneurship is about the practices of exploration, experimentation and trial and error that lead to the development of new, novel and innovative practices, processes and products; this, in turn helps create new economic activities which drive economic growth, wealth and employment. As such the theme can lend itself to a range of topical societal issues; informing technological development and contributing to novel solutions that improve environmental performance, reduce energy usage, increase the quality of life for an aging population and make UK PLC more competitive.

Our Centre for Entrepreneurship is a university-managed workspace focused on digital technology and businesses within media and tourism offering hands-on support to help businesses grow (<http://bucfe.com/>).

Summary of key research areas:

- New Venture Creation
- Entrepreneurial Strategy and Organization
- Accounting, Finance and Economics
- Human Resources and Organisational Behaviour
- Strategy and Marketing
- Intellectual property policy and management
- Corporate governance and tax
- Technology and Innovation

In the current era of extraordinary environmental change, issues such as global biodiversity loss, widespread environmental degradation and the potential impacts of climate change have become major international concerns. Key societal responses include the conservation and sustainable use of biodiversity, and the development of a sustainable or green economy.

Staff and students at BU undertake policy-relevant, interdisciplinary research science aimed at:

- Increasing understanding of environmental change and its impacts on biodiversity, ecosystems services, the physical environment and human livelihoods;
- Evaluating environmental management options and policy responses;
- Developing sustainable solutions to enhance environmental conditions and human wellbeing.

Our research comprises conservation ecology, environmental science, social science, remote sensing, physical geography, microbiology, parasitology and ecological modelling. Research examines the links between biodiversity and environmental change at scales of the individual organisms, landscapes and ecoregions. Research into the green economy includes carbon storage and management, renewable energy, behavioural change of individuals and institutions, green tourism, sustainable design, leadership of sustainable development, and the linkages between the environment and the economy.

Research at BU on this theme is internationally recognised, and is undertaken in partnership with a wide range of other organisations, including conservation NGOs, businesses, local and national governments, and intergovernmental organisations including UNESCO and UNEP. BU is now recognised as one of the greenest Universities in the UK, demonstrating our leadership in this area. We are also pioneering the provision of training in this field, having recently launched a globally unique Masters degree in the Green Economy, which is delivered by distance learning.

Our Aquatic Services consultancy offers expert scientific services in the ecological and environmental sectors, with a keen focus on aquatic ecology (<http://microsites.bournemouth.ac.uk/business-services/consultancy-and-funding/aquatic-services/>).

Summary of key research areas:

Work within this theme focuses on the disciplines associated with conservation ecology, environmental sciences, and the green economy. Main research activities in these areas include:

- Aquatic ecology
- Biodiversity conservation, restoration and sustainable use
- Coastal processes and management
- Coastal hazards, risks and vulnerability to climate change and extreme events
- Conservation ecology and environmental sciences
- Conservation genetics/Molecular Ecology
- Environmental management
- Evolution and ecology of host-parasite systems
- Impacts of environmental change
- Palaeoecology, Past Environmental change and biodiversity
- Relationships between human livelihoods and the environment
- Sustainability, resilience and green economic development



Behaviour and lifestyle factors are major contributors to morbidity and mortality; some are well recognised such as unhealthy diet and lack of exercise while effects of others such as social isolation and social relationships are less clear. 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 the wider society.

We are vibrant and experienced in working with communities, voluntary organisations, businesses, local authorities and health and social care providers to help develop more effective ways of working. We lead on a range of local, national and global projects and publish in top international journals.

Our innovative Wellbeing in Practice service helps organisations to rethink and improve their environment in order to promote wellbeing and improve performance (<http://microsites.bournemouth.ac.uk/wellbeing-in-practice/>).

Our well established Centre for Practice Development helps health and social care providers to identify new approaches, bring about positive change and improve the quality of life for residents, patients and carers (www.bournemouth.ac.uk/cfpd).

Our award-winning National Centre for Post Qualifying Social Work provides a range of courses throughout England and we are happy to talk to both individuals and employers regarding their needs (www.ncpqsw.com).

The Psychology Research Group seeks to understand, develop and apply psychological theories and principles to the improvement of physical and psychological health and wellbeing. We study a range of health-related behaviours, including healthy eating, increasing physical activities, improving sleep and sleep-related functioning, improving social relationships and focus on various specific conditions including eating disorders, depressive disorders, dementia, and severe illness. Our work spans the breadth of the population from young children to older adults, and includes those with clinical symptoms and conditions as well as those who are more typical of the general population. We implement a range of methodologies using quantitative, qualitative, field-based and secondary analysis techniques, and have access to considerable equipment and facilities including, a fully equipped EEG laboratory and a state of the art food research suite. We have also recently established a new University-wide Centre for e-Health and Internet-related Research and Practice (CHIRP).

Summary of key research areas:

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

- Promoting public health and effective nutrition
- Addressing social exclusion and improving social relationships
- 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
- Tourism and wellbeing
- Mental and physical wellbeing across the lifespan
- Early year's development



Leisure, recreation and tourism are central features of national and international policies in the 21st century where resource use, multiculturalism, localism and globalisation are under the spotlight. BU has been at the forefront of research and training in all of these crucial areas and offers:

- The creation of policy frameworks to empower people and society to take charge of their own well-being through leisure, recreation and tourism;
- World leading models to help plan for a better more sustainable future; managing tourism through the development of tourist places and experiences using evidence-based forecasting, impact and development planning models;
- In a world where disasters are increasingly common, our internationally renowned Disaster Management Centre integrates the travel and tourism industries to provide preparatory, response and recovery guidance and training;
- A world-first eTourism Lab (<http://blogs.bournemouth.ac.uk/etourismlab/>) developed to guide organisations through the transformation and development of eTravel, as well as advising the events and hospitality industries on using social media to compete globally;
- To capitalise on developments in a dynamic world it is vital for governments and business to have accurate, timely information. Our Market Research Group (<https://mrg.bournemouth.ac.uk/>) guides you from survey design to reports using state of the art data collection services;
- Europe's first National Coastal Tourism Academy (<http://www.coastaltourismacademy.co.uk/>), offering blended learning and innovation to support coastal tourism businesses and destinations across the UK.

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
- Sport tourism and sport management
- Event management, and research into event impacts and legacies
- Disaster management
- Market research for tourism and heritage organisations



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. Product development is a costly necessity – or it can be without the use of advanced simulation technologies such as those available at BU. With the help of simulation, complex products and systems can be designed, developed and tested, all within the virtual environment. This helps to reduce time and cost by minimising the number of unnecessary design iterations.

At BU we have a range of talented design technologists working on both academic and near-market products with world-class expertise in areas such as:

- Biomedical and biomechanical engineering
- Robotic engineering
- Tribology
- Smart systems and technologies
- Renewable technology
- Sustainable design

We frequently work with industries, companies and organisations helping them to utilise the latest technology to enhance their products, requirements and business.

For example, our research work in unison with local hospitals and orthopaedics consultants involves designing and innovative internal shoulder, knee implants and prosthesis. In addition, our high level research work dedicated towards the development and design of prosthetic sockets and composite prosthetic foot designs aid in improving the comfort, performance and quality of life for young active amputees.

Summary of key research areas:

The main research activities in these areas include:

- Simulated engineering analysis
- Sustainable design – tribology, renewable technology, structural integrity, engineering education and general design;
- Medical device and Medical engineering
- Static and dynamic design analysis and Verification of smart composite structures
- Smart technology
- Software systems engineering – systems-of-systems engineering, process modelling, software engineering and requirements engineering
- Social informatics
- Security – information assurance, enterprise security and cybercrime
- Robotics
- Hybrid inverse problem analysis
- Virtual manufacturing processes



Worldwide, the demographic profile of societies is changing resulting in ageing populations. As society ages the prevalence of dementia also increases. BU researchers working within the ageing and dementia theme are from a range of disciplines and practice backgrounds. We conduct research that contributes to and is informed by policy and practice, and use theory and evidence to make a difference to the everyday issues an ageing society faces. Our work draws expertise from every school across the University and is informed by local concerns to drive research that is societally relevant and impactful.

A particular strength of our research is our work with people with dementia and the Bournemouth University Dementia Institute (www.bournemouth.ac.uk/dementia.institute). BUDI is a cross-school institute that works collaboratively with partners and colleagues across the UK. We work with a range of stakeholders including practitioners, service commissioners, carers and older people and people with dementia to bring about change and improvement in the quality of life of those with dementia. The Wayfinding Research Centre (WRC) (www.spatial-cognition.org) focuses on cognitive processes involved in orientation and wayfinding. The WRC uses behavioural navigation experiments, virtual reality techniques, eye-tracking, and cognitive modelling. Neuroscience is another aspect of work at BU that we are applying to the study of ageing and dementia, in particular working memory and perception.

We work collaboratively with researchers, clinicians and practitioners regionally, nationally and internationally including Europe, Asia, North America, Latin America and Australasia. Our work has attracted funding from the National Institute Health Research, EU, NHS, Alzheimer Society, private and voluntary sector care companies and local authorities. For example, we have provided training to care home staff on dementia care, evaluated existing care services, trialled initiatives such as computer game technology to engage people with dementia, and provided consultancy on care home building design.

Summary of key research areas:

The work of this theme is informed by many disciplines including psychology, health sciences, neuroscience, computing, media studies, geography, sociology and social policy. Our research interests fall under the following broad topics:

- Dementia friendly leisure
- Dementia friendly environments
- Service improvements and care provision
- Public awareness and knowledge translation
- Education, leadership and staff development
- Eye-tracking, way-finding and virtual environments
- Neuroscience
- Preventing falls and reducing fear of falling
- Capacity and psychological issues