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The Brunel Innovation Centre (BIC) focuses on acoustic wave and allied technologies covering a range of materials, sensors, electronics and software systems. The team is well known for the development of ultrasound wave theory, experimental methods, and modelling techniques.

The motivation is to solve problems in industrial inspection and monitoring by conducting thorough scientific research. BIC covers a whole range of activity from fundamental scientific studies through to the transfer of technology to industry and has an outstanding international reputation.

**RESEARCH AREAS**
- Automation and robotics of inspection systems
- Electronics
- Image processing
- Sensors (piezoelectric, electromagnetic)
- Signal processing

**Applicable to industries including:**
- Aerospace and aeronautics
- Infrastructure (roads, bridges)
- Oil and gas
- Power generation (fossil, nuclear, renewables – wind turbines, tidal generators, wave systems)
- Surface transport (rail, ships)

**CURRENT RESEARCH**

**Professor Tat-Hean Gan, Director**

Tat-Hean Gan has over a decade of experience in Non-Destructive Testing (NDT), Structural Health Monitoring (SHM) and Condition Monitoring of rotating machineries in various industries.

**ENQUIRIES**

bic@brunel.ac.uk

+44 (0)1895 266897
The Advanced Manufacturing and Enterprise Engineering (AMEE) research group represents an integrated, innovative engineering discipline, and specialises in advanced manufacturing technology, enterprise engineering and engineering management.

Facilities include the Advanced Manufacturing Technology Laboratory, the Enterprise Engineering and Systems Laboratory and the CAD/CAM Laboratory. Current research interests are focused on development of high precision machine tools, smart tooling, micro manufacturing, nano/micro cutting mechanics, 3D surfaces and characterization, sustainable manufacturing and systems, smart manufacturing, digital manufacturing and enterprise technologies, RFID enabled manufacturing systems, supply chains management, innovation and technology management, CAD/CAM/CAE, manufacturing metrology, condition monitoring, services engineering, global manufacturing and systems, enterprise modelling and simulation, and e-manufacturing.

**RESEARCH AREAS**

- Design of high precision machine tools
- Sustainable manufacturing and systems
- Condition monitoring & control
- Digital enterprise technology
- e-Manufacturing
- Smart tooling and smart manufacturing
- Technology and innovation management
- Micro/nano manufacturing
- Nano positioning and manipulation
- Nano/micro metrology
- Supply chains management
- Systems modelling and simulation
- Micro ECM and EDM

**CURRENT PROJECTS**

The Advanced Manufacturing and Enterprise Engineering (AMEE) research group is currently working on a number of research projects funded by the EU 7th Framework Programs Technology Strategy Board, EPSRC, KTP Programs, Royal Academy of Engineering, and industry. There are currently over 50 PhD students studying with AMEE.

**ENQUIRIES**

[www.brunel.ac.uk/contact-admissions](http://www.brunel.ac.uk/contact-admissions)

**JURRIATH (ANGELA) AZMATHI MUMITH**

“Being a PhD student in Engineering and Design at Brunel gives you a lot of opportunities. We are bombarded with courses and training opportunities to help us to carry out our research from general transferable skills to training in specific software.

Another thing I really love is that we get the opportunity to present our research at international forums and conferences and this gives us an opportunity to mingle with the experts in our field and be a part of the international academic community.”
ADVANCED SOLIDIFICATION TECHNOLOGY

The Brunel Centre for Advanced Solidification Technology (BCAST) provides novel solutions for a sustainable metals industry, conducting research to generate world-class knowledge in solidification science. BCAST aims to be an international leader in liquid metal engineering to underpin and strengthen solidification research, strategic technology developments and user-led industrial applications.

The Centre is the leading partner in multi-million EPSRC LiME (liquid metal engineering) and LCV (low-carbon vehicle) programmes and in a number of UK and European research projects. BCAST welcomes collaboration with academics or industrial companies, and is always interested in recruiting PhD students.

RESEARCH AREAS

• Nucleation–based solidification research including the structure of liquid metal, mechanisms of heterogeneous nucleation and the generic approach for enhancing and controlling nucleation through both physical and chemical methods

• Innovative generic technologies for nucleation control including techniques for liquid metal treatment, techniques for enhancing nucleation on both endogenous and exogenous solid particles through both physical and chemical methods, and applications of developed techniques for nucleation control to the existing shape casting and continuous casting processes

• Proprietary applied research with individual industrial partners to exploit fundamental research and generic technological development to support the metal casting industry in implementing innovative processing technologies and new products

CURRENT PROJECTS

Projects cover a wide selection of topics from intensive shearing and direct chill (DC) casting to recycling and Molecular Dynamic Simulations of interfacial monolayers.

ENQUIRIES

bcast@brunel.ac.uk
+44 (0)1895 266413

UTSAVI JOSHI

“I am investigating novel methods to improve the grain structure of magnesium alloys.”
Brunel Anthropology is rated as a centre for international research excellence and has a distinctive profile in British anthropology.

Our expertise includes innovative projects throughout South and Southeast Asia, Melanesia, central America, Africa, Europe and Britain. Brunel anthropologists carry out ground-breaking research in medical anthropology and the anthropology of childhood, youth and education. PhD students are an integral part of our vibrant research community. Students benefit from a unique multidisciplinary Master Class programme offering training in a range of methods and skills used in Anthropology and throughout the Social Sciences.

Our current research spans the globe and engages with a range of contemporary topics such as political violence, nationalism, the politics of development, post-colonial studies, disability, biography, emotion, food and global health. Our staff and students are members of the research centres listed below.

**RESEARCH AREAS AND CENTRES**

- Centre for Anthropological Research on Childhood, Youth and Education (CARCYE)
- Centre for Research in International Medical Anthropology (CRIMA)
- Histories and Concepts of Anthropological Knowledge (HCAK)
- Performance, Politics, and Violence (PPV)

**CURRENT PROJECTS**

Will Rollason’s research on Urban Development, Youth and the Future in Kigali, Rwanda, suggests that youth development in the motorcycle taxi sector in Kigali is mainly driven by informal economic arrangements between young men, many of them migrants without advanced education or promising backgrounds, and local entrepreneurs who invest in the young men’s futures. In the context of Rwanda’s drive to economic formalisation, the success of the sector and the social systems underpinning it have remained largely unrecognised, and in many cases are threatened by government and other programmes.

Other current research projects include: Anthropology and Emotion; Education, Childhood and Social Mobility in India; HIV/AIDS in South Africa; Disability and Ethnographic Biography; Orangutan Conservation in Borneo; and Violence and Memory in Chios, Greece.

**ENQUIRIES**

Write directly to an individual member of staff in the first instance, outlining your research proposal and giving an indication of your qualifications:

www.brunel.ac.uk/cbass/social-sciences-media-communications/anthropology/staff

**TANYEL OKTAR**

“As part of my research, I am familiarizing myself with the issues related to deafness, the history of deaf education, deaf marriage and occupations of deaf people in England, the development of British Sign Language and its link to the British Deaf community. I aim to reflect upon this ‘deaf experience’ as a means to understand the issues affecting deaf people living in England today as well as a point of reference and comparison to the lives of deaf people in Cyprus and possibly Turkey.

After my PhD, I would like to continue to do anthropological research around the world on issues directly related to deafness or other broader anthropological phenomena. While my passion to contribute to anthropological literature and theory is strong, I also do not want to ‘detach’ myself from the practice of working and interacting with people, and thus will be in search of career opportunities that allow this delicate balance.”
Brunel Institute for Bioengineering (BIB) has developed over the last 30 years into a Specialist Research Centre providing new solutions for healthcare and health delivery.

The team of multi-disciplinary engineers, scientists, clinicians and biologists produces innovative, leading edge solutions in practice for health, medicine and surgery. Smart tools for surgery, smart bio-sensing systems, cardiovascular devices modelling, respiratory functions, bio-processing and technology for quality life-long living has produced pragmatic and cost efficient solutions in practice. Many are demonstrated as innovative prototype devices and are followed through to practice by working with industrial partners.

The research within BIB is world leading, and the Advanced Bioprocessing Centre in BIB takes small-scale, analytical methods for purifying pharmaceuticals, proteins, cells and other mixtures and turns them into large-scale processes suitable for production.

Staff members are committed to providing excellent training to researchers and professionals. Students will conduct their research at Brunel, and some research can be conducted in practice or with associated companies. BIB is affiliated with clinical partners; international hospitals, national and private, and has a close working relationship with companies on a world-wide basis who also participate in the research.

Irrespective of their setting, all new research students will enjoy the embracing and nurturing environment of BIB’s staff and student body, and will feel part of the research team.

**RESEARCH AREAS**

- **Devices** – surgical tools, implantable devices and sensing systems
- **Modelling and simulation** – used to interpret diagnosis data, predict bioprocesses, judge impact of therapies and optimise design of medical devices and tools
- **Continuous flow processing** – downstream processing, liquid-liquid dynamic extraction technology, separation and purification techniques and associated instrument design/operation, linking upstream and downstream processes, modelling and method development
- **Assistive technology** – the design of products integrating relevant new technology that focus on the needs of users to improve their quality of life

**ENQUIRIES**

bibadmin@brunel.ac.uk
+44 (0)1895 266927

You might also like our Bioengineering MRes on page 42.
The Biosciences research centres focus on health and disease mechanisms.

Biosciences academics are making major advances in areas such as: understanding natural as well as accelerated ageing, as in progeria; human diseases including breast, prostate and skin cancer, leukaemia and irradiation-induced abnormalities; neurodegenerative diseases and infectious diseases such as tuberculosis, malaria, aspergillus and viral infections. Researchers are involved in the development of treatments for disease including novel vaccines, stem cell, gene and antibody therapies, novel drug development and artificial biomaterials. Biosciences laboratories have a wide range of state-of-the-art facilities, equipment and expertise, and PhD applicants can apply for a pre-defined project or propose their own research topic.

**RESEARCH AREAS**

- **Centre for Cell and Chromosome Biology (CCCB)** – this Centre specialises in research areas such as ageing and premature ageing, bone production, early embryonic development, steroid hormonal response in reproductive tissue, stem cell biology, chromosome rearrangement after irradiation and in cancer, cellular response to parasitic infection, trinucleotide repeat disorders, cellular signalling pathways, fundamental processes such as transcription and cell culture methodologies and fluorescence in situ hybridisation (FISH) technologies

- **Centre for Infection, Immunity and Disease Mechanisms (CIIDM)** – researchers in this Centre concentrate on the host-pathogen interaction aspects via comparative genomics, microarray, bioinformatics, biomarkers and host susceptibility factors, iron metabolism in bacteria and mammals, immunobiology of the neuronal system, organogenesis, pregnancy and cancer

- **Brunel Institute for Cancer Genetics and Pharmacogenomics (BICGP)** – this Centre specialises in breast, prostate and lung cancer, malignant melanoma and leukaemia, the role of telomeres in cancer and genome biology, novel tumour suppressor genes, molecular characterisation of the role of telomeres in DNA repair, alternative splicing of genes in cancer and the identification of novel T-cell mechanisms in human tumour immunology

- **Centre for Systems and Synthetic Biology (CSSB)** – this Centre is interdisciplinary with Information Systems and Computing. Areas of research include synthetic biology, epigenetics, systems biology infrastructure, exploitation of systems biology technologies, whole system and multi-scale modelling of behaviour and software systems and databases

**CURRENT STAFF PROJECT**

**Professor Arturo Sala** is Deputy Director of Brunel Institute for Cancer Genetics and Pharmacogenomics. He aims to understand the molecular causes of cancer and develop innovative therapeutic approaches. Professor Sala’s group is particularly interested in studying the role of specific oncogenes and tumour suppressor genes, such as MYC and CLUSTERIN, in cell proliferation and apoptosis in the context of cancer stem cells.

**ENQUIRIES AND APPLICATIONS**

biosciences@brunel.ac.uk

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**JESSICA PICKLES**

“I am investigating the molecular events triggered by treatment of Syrian hamster embryo cells with genotoxic and nongenotoxic carcinogens. The aim of my project is to validate that morphological changes induced by treatment of these cells can be used as a reliable indicator for predicting the carcinogenicity of substances with potential for clinical applications. By studying these morphologically altered cells we can help explain the relationship between malignant transformation and cell immortalisation.”
Brunel Business School offers a productive and supportive environment for research. Doctoral students will be supervised while undertaking high level rigorous and original research, and will be invited to participate in the annual PhD Symposium and regular Research Seminars, and engage fully with their designated Research Centre.

Brunel offers an opportunity to undertake the PhD programme in Bahrain through a collaboration with Ahlia University as well as the option of the Brunel Integrated PhD.

RESEARCH AREAS AND CENTRES

- **Accounting and Auditing Research Centre** – corporate financial reporting, assurance and corporate governance, impact assessments of government policy on the accounting and auditing needs of SMEs and the effect of deregulation on users of their financial statements
- **Centre for Research into Entrepreneurship, International Business and Innovation in Emerging Markets** – strategy, SMEs and innovation, entrepreneurship and innovation in emerging markets and trade and knowledge exchanges with other countries
- **Centre for Research in Marketing** – corporate marketing, corporate identity, and corporate brand management, international marketing, B-B marketing, CSR/ethical marketing among others
- **Information Systems Evaluation and Integration** – multi-disciplinary research in Information Systems Evaluation, Enterprise Integration and eGovernment
- **Operations and Supply Chain Systems Group** – all aspects of Operations Management and Supply Chain Management and related areas
- **Work and Organisation Research Centre** – HRM, Performance at Work, Social Identity and Organisational Processes

CONTACT US

[www.brunel.ac.uk/contact-admissions](http://www.brunel.ac.uk/contact-admissions)

**SARA AHMED**

“I received a scholarship from the Ministry of Higher Education of Saudi Arabia to study at Brunel. The supervision is excellent. I am doing my PhD on applicant reactions to selection procedures, investigating selection fairness within Internet-based selection procedures from applicants’ perspectives. I published my work in the International Journal of Selection and Assessment with my supervisors, who are always available to provide excellent guidance and support. I also presented my work at the British Psychological Society Division of Occupational Psychology (BPS-DOP) in 2012.

My ambition is to work as a lecturer. I look forward to collaborating with academics from different disciplines. Brunel has all that I need – a unique environment, multicultural community, high quality teaching, excellent supervision and great location close to Heathrow Airport. Connections to central London are excellent.”

**MARIO BURGAUSEN**

“My research developed a theory of corporate heritage stewardship and my study focused on Great Britain’s oldest brewery. I was the recipient of a Brunel Business Scholarship, enabling me to work with my supervisor Professor Balmer on a study relating to the broad corporate marketing domain.”
CIVIL ENGINEERING

The Sustainable Civil Engineering Research Group (SusCERG) is a multidisciplinary research hub bringing together strengths in engineering and environmental sciences to address real life problems in a way that advances fundamental scientific knowledge and understanding and improves efficiency in industry and the built environment.

RESEARCH AREAS

• Innovative Materials: nanocellulose and engineering biocomposites, nano and graphene and nano aerogel materials and integrated composites, nano and natural insulation materials and systems, timber and reengineered timber products, ultra-functional and long life materials, textile and its composites, geopolymer and advanced cement-based materials, low carbon materials, microwave and micro processed materials, pavement materials, steel and composites

• Advanced Structures: structure testing and modelling and health monitoring and protection, earthquake engineering and seismic design, analysis of reinforced concrete components and structures, nonlinear structural mechanics, timber engineering, silo structures, pavement engineering, steel design and construction, connectors and connections, structural fire engineering and multi-scale computing

• Geo-technical and Water Engineering: site investigation, characteristics and stability of soils and sediments, coastal and floodplain, seismic impact on soil characteristics, mechanics of dissolution-impacted soils and rocks, surface water and wastewater generation and reuse, flood protection and alleviation, water supply and distribution network modelling and drainage collection systems

• Procurement and Sustainable Construction: sustainable procurement, risk and contract, health and safety, planning and control, change and claims, delay and disruption analysis and lean construction; lightweight construction, modern method construction (MMC) innovative construction design and codes and standards

• Resources Efficiency and Sustainability: waste management, waste treatment of huge mass structural materials, reuse and recycling of household, commercial, refurbishment and demolition wastes, usage of industry by-products such as PFA and GGBS and used tyres, performance in use and LCA

CURRENT PROJECTS

Two research centres within SusCERG, Brunel Research Institute for Sustainable Engineering (RISE) and European Centre of Excellence (Grow2Build), have a number of research projects on materials and composites from nano and graphene to micro and macro scales, innovative design, processing, fire engineering and product performance. On-going complex EU and UK government projects include: highly efficient production of aerogel insulation materials and their integrated composites and systems (ICECLAY); nanotechnology enhanced extruded fibre reinforced foam cement based environmentally friendly sandwich material for building applications (FIBCEM); utilisation of recovered wood and rubber for alternative composite products (WOODRUB); local cultivated hemp and flax as a resource for bio-based building materials (Grow2Build); low cost superior insulation materials for zero carbon building construction (VIP4ALL); and rubber fusion of wood plastic composites (RubWPC).

CONTACT US

www.brunel.ac.uk/contact-admissions
COMPUTER SCIENCE

The Computer Science department is home to a vibrant and talented community of students, researchers and academics who provide deep, practical insight into the development and use of computational techniques and technology for modern and complex environments.

Computer Science students on this excellent PhD research programme address complex and challenging issues, present work at international conferences and publish in high quality journals. You will benefit from world-class supervision and dedicated facilities – every research student has access to office space and a computer. You can study for a traditional PhD full-time or part-time, or undertake the Brunel Integrated PhD (see page 30).

RESEARCH AREAS

- Centre for Intelligent Data Analysis (CIDA)
- Artificial Intelligence
- Biomedical Informatics, Systems and Synthetic Biology
- Critical Applications of the Twenty-first Century
- Digital Innovations
- Dynamics Signals and Time Series
- Visual Computing and Multimedia
- Centre for Software and Systems (CSS)
- Modelling and Simulation
- Social Informatics
- Organisational Informatics
- Software Engineering
- User Centred Design

MRS MOHSINA FERDOUS

“In collaboration with scientists at GSK, the primary objective of ‘Predicting chromatin status using differential expression profiles’ is to investigate intelligent data analysis methods for integrating, modelling and visualising large-scale high-throughput biological data and determining gene transcription signatures that are predictive of the underlying chromatin structure.”

CURRENT PROJECTS

Professor Hierons is developing methods that support automated software testing, with a focus on using multiple independent testers when testing distributed systems. The main motivation is that if we can use independent testers then we avoid the delays introduced by testers exchanging coordination messages; this makes testing cheaper and is sometimes necessary when there are timing constraints. His other research interests include the automated analysis of software, motivated by the desire to reveal faults at an early stage.

CONTACT US

www.brunel.ac.uk/contact-admissions
CREATIVE WRITING

The Creative Writing PhD offers the opportunity to complete a substantial work in an exciting research environment in London with the benefit of the experienced supervision of tutors, all of whom are professional writers. It is an ideal progression from a Master’s degree, or for professional writers who wish to gain a doctorate in creative writing, or for those wishing to teach creative writing at university level.

Creative Writing research at Brunel can embrace creative practise, critical reflection and research into the educational and social impact of this discipline. Graduates are offered expert support in professional preparation for a literary career and are expected to establish a strong publication record. You will submit a thesis divided into creative and critical components that relate to each other – the essay can be either a commentary on process and practice, or an investigation into other fields of creative literature and critical/theoretical writing.

RESEARCH AREAS

• A wide range of literary ambition, from experimental fiction to genre writing
• Practice-based research, specifically proposals for novels, poetry, drama and imaginative non-fiction that demonstrate originality, a commitment to generic advance or reinvention and a high standard of artistic accomplishment
• The role of Creative Writing in education and in communities outside the university sector such as teaching in schools, literature as public art and the cultural industries

CONTACT US

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ROHAIL AHMAD

“It was important that I chose a university within commuting distance as I live in West London and only Brunel had exactly the course I wanted: a Master’s on how to write a novel. The course exceeded my expectations. I achieved a Distinction and jointly won the Curtis Brown Prize for my dissertation novella, The Dancing Girl of Lahore, which was also long-listed for the Paris Literary Prize. I continued on to a PhD in Creative Writing. The staff were very encouraging and I received excellent supervision. My PhD novel, Pure Mafia, is a contemporary novel about child labour. My novella and novel are currently under consideration by publishers.

In the second year of my PhD I was given the opportunity to teach undergraduates. I have now taught for two years and will continue to do so as a part-time lecturer. I was also given the opportunity to complete a course in higher education teaching, which led to a qualification of ‘Associate Fellow’ with the Higher Education Academy.”

LIESEL SCHWARZ

“My PhD is focused on 19th Century speculative literature and the influence it’s had on popular culture and modern genre writing. The skills I learned at Brunel have opened so many doors for me – I have found my way into the world of teaching writing.”
DESIGN

Design at Brunel is an interdisciplinary activity and our research approach seeks to integrate human, environmental and technological elements – combining human centred design investigation with technological or systems factors, enabled by design thinking and processes. The distinctiveness of Design at Brunel lies in its integrated and engineering approach.

Our staff covers a broad spectrum of disciplines including industrial (product) design, electrical and mechanical engineering, manufacturing and materials engineering, CAD/CAM, inclusive design, human-centred design, sustainable design, and design innovation management. Brunel Design has a well-established record of research excellence, with multidisciplinary, product related design research that is grounded on strong engineering design traditions.

Research is coordinated under the Brunel Design Research Centre. The thematic streams within the Centre are aligned with current environmental, societal and technological imperatives. The Design research vision is to be a leading provider of design research that responds to major societal issues and is at the forefront of new and emerging technologies and design practice.

RESEARCH AREAS

• Design and Human Wellbeing (through Inclusive Design and Design for Ageing Demographics, Perception Enhancement and the Human Centred Design Institute)
• Design for Sustainability (through Sustainability and Social Responsibility and Cleaner Electronics)
• Design for the Creative Industries (including Design Innovation Management, Open Design, Design Entrepreneurship and the Digital Economy, Creativity and Innovation, Digital design – digital production and Information Architecture)

The diversity of our expertise and research grant portfolio enables us to provide challenging research opportunities and experiences for research students and offer consultancy and research and development services to industry. Our research is funded through competitive peer-reviewed awards from a range of UK Research Councils (RCUK, AHRC, EPSRC, ESRC), the Technology Strategy Board (TSB), European Union and government, and charitable foundations. Research-led knowledge transfer projects also confirm our strong end-user and industry relationships with both major international firms (Ordnance Survey, Shell Ltd, Reckitt Benckiser, Jaguar Land Rover, Samsung) as well as SMEs in the regional economy, and also in patented and product-based designs for manufacture.

RESCON14

The annual research student conference gives our research students an opportunity to practice their oral and written presentation skills by presenting their research findings to colleagues, academic staff and industrial collaborators. Prizes are awarded for the top presentations.

CONTACT US

www.brunel.ac.uk/contact-admissions
ECONOMICS AND FINANCE

Brunel’s Economics and Finance Department is one of the ten largest Economics departments in the UK with a distinctive focus on integrating Economics, Finance and Accounting.

Our research informs industry, government and economic policy. Brunel offers two research programmes in Economics and Finance: the PhD and the Brunel Integrated PhD. All of our PhD students benefit from working with key researchers in their chosen area. Students also benefit from a multidisciplinary Master Class programme aimed at offering students access to a range of theories, methods and skills in the Social Sciences. The Brunel Integrated PhD in Economics and Finance aims to educate graduates to the high academic standards expected from PhD research with an integrated range of skills and knowledge that broaden and deepen subject expertise beyond the bounds of the usual research degree (see page 30). Our research covers a wide range of areas including financial markets and institutions, macro- and microeconomics, development, financial accounting, corporate governance and econometrics.

RESEARCH CENTRES

- Brunel Macroeconomics Research Centre (BMRC)
- Centre for Economic Development and Institutions (CEDI)
- Centre for Empirical Finance (CEF)
- Centre for Accountancy and Corporate Governance (CACG)

CURRENT PROJECTS

John Bennett, Professor of Economics, is currently researching informality (economic activity that is not registered with the authorities, eg for tax purposes) in developing and transition economies.

Menelaos Karanasos, Professor of Economics, is currently working on an EU funded research project looking at Macro Risk Assessment and Stabilization Policies with New Early Warning Signals (RASTANEWS).

CONTACT US

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FRANCIS ATSU

“Most credit risk models could not appropriately measure the probability of extreme default losses due to the assumption that default correlations are only driven by observable firm specific and macroeconomic factors. Hence, a new research strand emerged where US data sets are mainly used to augment previous models with frailty factor(s). Therefore, my research seeks to explore various multivariate models and dependence structures by developing a regime switch lognormal frailty model using listed firms on the London Stock Exchange – currently the largest by volume and most proactive exchange-traded fund exchange in Europe.

As a Commonwealth scholar, with a passion for development, after completion, my first action is to go back to Ghana and create a risk centre to be hosted by Ghana Institute of Management and Public Administration (centre for training public and private officials) with the core objective of training, research and policy formulation aimed at accelerating economic development and poverty reduction.”
EDUCATION

Education at Brunel offers excellent research degree programmes to students who benefit from world-class supervision from leading researchers in their fields.

Brunel’s Education research students not only address some of the most current and challenging issues but also publish their results in high-quality journals and present at international conferences. You can apply to study on a full-time or part-time basis for an MPhil, PhD or the new Doctor of Education (EdD) programme offered on a part-time basis to senior professionals.

RESEARCH AREAS

• Pedagogy and Professional Practice (PPP) – teacher education and development; subject-specific pedagogy and transition between phases of education; models of effective practice in relation to science, technology, engineering and mathematics (STEM) education; leadership and management in education; philosophy of education; ways of identifying and fulfilling talent of special educational groups such as children with high potential in inner-city areas of social deprivation and the design of effective interventions; and cultural-historical activity theory.

• Education, Identities and Social Inclusion (EISI) – pupils’ understanding of culture and identity and the construction of sexual identities within educational settings; celebrity and youth culture; socio-emotional learning and development; ADHA; the ways in which the identities of student teachers change over the period on initial teacher education; the impact of identities on teachers’ engagement with professional development; psycho-social approaches to learning and development; sociology of education and discourse analysis.

RECENT PROJECT

In the recently published paper ‘Are we being de-gifted, Miss?’ primary school gifted and talented co-ordinators’ responses to the Gifted and Talented Education Policy in England are examined in the British Education Research Journal. The paper is based on Brunel’s national survey and interviews and it highlights what children and teachers think about teaching higher ability children.

CONTACT US

www.brunel.ac.uk/contact-admissions
Research in Electronic and Computer Engineering covers a wide range of areas which have direct compliance with industry vision and requirements, and are carried out in five research centres in the areas of telecommunications and sustainable energy and systems. The team offers comprehensive high-quality teaching and learning resources and strong research links with industry.

**RESEARCH AREAS**

- Centre for Media Communications Research (CMCR) – image compression, visual media processing, 3D imaging technologies, audio processing and recognition, media search and retrieval, real-time signal processing, networked media systems, media transport and delivery over heterogeneous networks and virtual/augmented reality technologies
- Wireless Networks and Communications Centre (WNCC) – wireless communication networks, broadcast communication networks, mobile communication networks, radio over fibre, future Internet and application of networks for the communication of information, media and services within the media, energy and environment, security and defence, manufacturing and medical industries
- Brunel Institute for Power Systems (BIPS) – power systems analysis for transmission and distribution networks, novel ICT solutions for smart grids, congestion and condition monitoring in electrical power networks, design and analysis of power electronics for sustainable electrical power systems and analysis of new energy markets
- Centre for Electronic Systems Research (CESR) – computational intelligence, signal processing, bio-informatics, large-scale data interpretation, charge particle dynamics of pharmaceutical aerosols, electrohydrodynamics atomization and spray systems, electrospinning of micro and nano fibres, electrical charge effects of pollen, bio-nanotechnology: lab-on-a-chip systems, NDT using digital radiography, NDT using EMAT sensor systems, blind navigation using GPS and wireless communication technologies, biometric security in wireless communication systems and numerical modelling of optoelectronic devices
- Centre for Sensors and Instrumentation (CSI) – detectors, instrumentation and data analysis methods applied to high energy particle physics, space science, medical imaging and remote instrumentation and control. Data processing techniques include grid computing, genetic programming and visualization

**BASEL ABU JAMOUS**

“I work in bioinformatics, an interdisciplinary field in which biologists meet information engineers. As biologists have been generating enormous amounts of raw biological data, information engineers have been increasingly needed to fruitfully analyse datasets. My focus is on designing new specialised computational methods and applying them to biological datasets for new biological discoveries. I regularly interact with biologists and medical collaborators at the Universities of Oxford and Bristol to discuss the progress of the research. I have had the chance to present my work many times at these meetings. I have successfully proposed a new computational method, Bi-CoPaM, and published it, and one of its applications, in two journal papers.”

**CURRENT PROJECT**

One of Professor Nandi’s current projects is a collaboration between Brunel, Oxford, Bristol and Cambridge universities to study regulation of gene expression during red blood cell developments.

**CONTACT US**

www.brunel.ac.uk/contact-admissions
Our research is focused through the early modern studies group, the Brunel Centre for Contemporary Writing (BCCW), and the Brunel Gender and Sexuality Research Centre (BGSRC). Brunel is a leading centre for contemporary literature and theory with one of the UK’s strongest concentrations of researchers.

The BGSRC explores gender and sexuality as categories of social understanding and intellectual analysis across historical periods, geographical arenas, and intellectual contexts through research in comparative and postcolonial literatures, medical humanities, and premodern sexualities. Characterised by diverse and interdisciplinary critical approaches to major literary periods, geographies, and movements, our research explores marginalised forms and groups.

Our ground-breaking work on literature and ageing has had a major influence on UK policy makers and we are especially interested in how literary studies contribute to the analysis of social issues, identities, and the impact of new technologies.

**RESEARCH AREAS**

- Early modern writing and drama (Marlowe, Shakespeare, Jonson); spatiality and literary geographies; masques, progressues, and civic rituals
- Nineteenth-century literature: religious prejudice, secular anxieties, and narratives of cultural subversion; sensation and fantasy novels; science fiction
- Post-1945 avant-garde British fiction; modernist and post-war women’s writing; science fiction and fantasy writing
- Modernism / Intermodernity / Postmodernism
- Contemporary fiction (British, American); popular fictions, popular culture and consumption
- Postcolonial literature and theory; the politics of cultural translation
- Queer theory and writing; pre-modern sexualities and the body; sexology and medical sexualities; postcolonial queer identities
- Critical theory, literature and philosophy (especially Agamben, Derrida)
- Space, literary geographies, and psycho-geographies
- New histories of the book, authorship, oral and textual transmission, manuscript studies and codicology, editing and editorial theory
- Literature and religious identities (early modern propaganda; early modern Muslims)
- Literatures of the black and Asian diasporas in Britain; British Muslim identities and writing; South Asian women’s writing
- Irish writing, identities, and cyber-identities

**CURRENT STAFF PROJECT**

**Dr Elizabeth Evenden** teaches early modern literature and book history. She is researching anti-Catholic and anti-Spanish propaganda in the English and Portuguese book trades. *Re-shaping the Black Legend: Conflict, Coalition, and the Press* developed from her two monographs on the Protestant printer John Day and the polemicist John Foxe. Recently awarded a prestigious Marie Curie International Fellowship, she is based at Harvard University and at the Biblioteca Nacional in Lisbon.

**SERENA VOLPI**

“My PhD thesis ‘Body, Time, and the Others: African-American Anthropology and the Rewriting of Ethnographic Conventions in Works by Zora Neale Hurston and Katherine Dunham’ explores bodily and temporal representations in ethnographies by the two African-American anthropologists and artists in connection to the research they conducted in the Caribbean, and Haiti in particular, in the mid-1930s. I have presented parts of my research at the Third Autumn Conference of the Centre of Excellence in Cultural Theory (University of Tartu, Estonia, 2010); the British Association for American Studies conference (University of Exeter, 2013); and the World Congress of the International Union of Anthropological and Ethnological Sciences (University of Manchester, 2013). I was awarded an Allan & Nesta Ferguson grant for the last year of my doctoral study and received a Vice-Chancellor’s Travel Prize for conferences.”
ENVIRONMENT

The Institute for the Environment (IfE) houses a team of experts and excellent toxicology and ecotoxicology facilities, a range of testing and analysis equipment, and equipment for the chemical analysis of samples. IfE’s research tackles a diverse range of environmental science issues.

RESEARCH

Students can work towards an MPhil, PhD or Brunel Integrated PhD – choosing a research topic is an interactive process between you and IfE, though you will have some idea of the general area that you would like to investigate. More information on the Brunel Integrated PhD is available on page 30.

RESEARCH AREAS

Dr Chaudhary is involved in the development, optimisation and commercialisation of clean and clean-up technologies for environmental pollution control
Prof Jobling aims to understand how contaminants influence wildlife and human health, and how technological processes might assist in their removal
Prof Kanda is interested in the development and application of high resolution MS and MS/MS analytical techniques for the determination of exposure of humans and wildlife to priority pollutants and hazardous substances
Dr Kershaw aims to interpret environmental change in Earth surface environments in areas associated with active change in the Earth’s crust and to assess modern geohazards
Prof Kortenkamp’s interests include understanding combined effects of environmental pollutants on human health and wildlife and developing strategies for mixtures in chemicals regulation
Prof Leroy is a palynologist interested in reconstructing past climates using lake and marine sediment sequences ranging from the Pliocene to the present
Dr Routledge is interested in human and wildlife health effects of exposure to biological and chemical contaminants in water
Dr Russell is interested in atmospheric phenomenon on a variety of temporal and spatial scales, including severe storm events in Western Europe

Dr Scrimshaw focuses on the fate and behaviour of chemical contaminants in the environment and during waste water treatment, including evaluation of their environmental impact and measures to control their discharge to the environment
Dr Silva is interested in how steroidal and environmental estrogens (and mixtures) affect breast glandular structure, morphogenesis and carcinogenesis in an effort to improve the understanding of hormonal carcinogenesis using in vitro 3D cultures
Prof Sumpter is interested in the effects of human pharmaceuticals present in rivers, such as betablockers, steroids and anti-cancer drugs on fish, with research ranging from molecular level studies to population level effects
Dr Zeka is interested in human health effects of occupational and environmental exposures, specifically air quality. She is interested in exploring health determinants in societies in transition

CONTACT US

www.brunel.ac.uk/contact-admissions
www.brunel.ac.uk/ife

KOFI RENNER

“My decision to study a PhD at Brunel’s Institute for the Environment is partly based on the wonderful experience I had while studying for my Master’s in Environmental Science. Brunel is equipped with modern facilities that are student friendly. Members of staff are pleasant and always willing to be of service to students. The high calibre lecturers, access to modern analytical and laboratory facilities, the award-winning status of the Institute and its contribution to key issues that help environmental policies in the UK today are some of the reasons I decided to do my PhD here. The Institute has carved a niche for itself within environmental science conducting studies in new areas such as microplastics, which I am interested in. The Institute for the Environment is the right place for me to learn and become an expert in my field.”
Research in Film and TV Studies at Brunel is coordinated by the Screen Media Research Centre. Members have established a substantial body of internationally recognized work in film, television and areas of digital media. We specialise in studies of contemporary film, television and related media but also welcome applications with a more historical basis. We can supervise practice-based as well as more traditional, theoretically-focused projects, in areas including but not limited to those listed below.

RESEARCH AREAS
- Recent and contemporary British, European, African, Hong Kong, Hollywood and American independent cinema
- The Gothic
- Fairy tales
- Film and philosophy, film and memory
- Representations of Africa
- Cult film, television and other media
- British and American television
- Science fiction, horror, comedy, the western, crime films
- Documentary, video practice, practice as research
- Media and press regulation
- Political cinema, activist media
- Gender, sexuality and the body in film
- Celebrity culture
- Marxist and psychoanalytical approaches to screen media
- Cinematic spectacle, narrative
- Avant-garde and experimental cinema
- Ecocriticism and screen media
- Trade unionism in film and TV industries

CURRENT PROJECTS
Prof Julian Petley is researching and campaigning on shortcomings in British media regulation, having given evidence as a major authority on the subject to the Leveson enquiry into press ethics.

Other projects include a new study of celebrity culture by Dr Milly Williamson and an examination of the Hollywood ‘quality’ film by Prof Geoff King.

CONTACT US
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Brunel has a thriving PhD programme devoted to the academic study of games from a range of perspectives. The dedicated Games Lab provides a base from which to work, is a great place to play games of all formats old and new, and to engage with staff and students investigating this exciting new academic topic. Recent guest speakers have included Francis Tresham, original inventor of Civilization, Reiner Knizia, the most prolific game designer ever and Jervis Johnson, Games Workshop’s Senior Game Designer, as well as a plethora of other significant figures from the games industry.

We combine both theory and practice and can support almost any games related research project. Staff include a mixture of academics from differing backgrounds which, in addition to bringing a wealth of theoretical knowledge, have decades of practical industry experience as well. Games at Brunel welcomes anyone, from any sort of background, with a strong research proposal for full-time or part-time study.

**RESEARCH AREAS**

- Games and narrative / storytelling / textual analysis
- Games Design and the workings of gameplay
- Gamers’ relationships to virtual worlds and environments
- Practice based research resulting in experimental or avant garde game designs / prototypes
- Studying the gamer and gaming as a media type or subculture

**CURRENT PROJECTS**

**Dr Kelly Boudreau** focuses on player/avatar hybridity in the networked process of digital game play, governance of toxic gamer culture, as well as emerging research methodologies.

**Dr Ashley Brown** is researching sexuality in games and community management with an eye to improving user experience and encouraging diversity in player populations. Her other projects include examinations of morality and ethics within play and games.

**Justin Parsler** is taxonomising the types of agency available to players in formal game structures.

**EDUARDO LIMA**

“I am investigating correlations between videogames’ narrative structures and ancient narrative traditions of Icelandic sagas.”

**CONTACT US**

[www.brunel.ac.uk/contact-admissions](http://www.brunel.ac.uk/contact-admissions)
HEALTH ECONOMICS

The Health Economics Research Group (HERG) is an internationally recognised centre of excellence in applied health economics. It undertakes high quality, policy-relevant research and contributes to the development of evaluation methodologies. Its research currently focuses on economic evaluation of health technologies, economics of public health, measurement and valuation of outcomes from health interventions, use of economic evaluation in decision making and methods of evaluating the ‘payback’ from research and development in the health sector.

Academics in the Group encompass a variety of disciplines including economics, public health, health services research, political science, and information science. Associated researchers at Brunel extend this network to statistics, medical sociology, nursing, psychology, mathematics, information and computer science.

Much of HERG’s work is carried out with or on behalf of medical institutions such as hospitals, medical research units and NHS bodies as well as international organisations. HERG has made major contributions to developing multidimensional ways to conceptualise and measure the payback from health research, and these are proving to be areas of growing interest to governments and research funding bodies in various countries.

RESEARCH AREAS

- Development and use of benefit measures for evaluation and policy
- Modelling the cost-effectiveness of health interventions
- Cost-effectiveness alongside a range of experimental and quasi-experimental designs
- Applied economic evaluations
- Resource allocation formulas
- Assessing the ‘payback’ derived from the funding of health and medical research

CURRENT PROJECTS

Joanne Lord, Reader in Health Economics, conducts research into the cost-effectiveness of health care technologies. She is the lead economist on a portfolio of applied studies, working alongside clinicians, statisticians and other health service researchers. For example, she is working with Warwick Medical School on a study to identify which people with low back pain are most likely to respond well to different types of therapy.

CONTACT US

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CHRISTIAN’S PhD EXPLORES THE ‘TRANSFERABILITY’ OF ECONOMIC EVALUATION RESULTS ACROSS GEOGRAPHIC AREAS.

“While it is common practice to transfer results from cost-effectiveness studies of health interventions from one country to another, there are always concerns about doing so. My PhD explores the ‘transferability’ of economic evaluation results across geographic areas. It develops and tests approaches to identifying factors that predict when transferring evidence may be appropriate.”
HEALTH STUDIES

The Health Division has a truly multidisciplinary focus with staff members from a wide range of professional, subject and disciplinary backgrounds. Staff research outputs include seminal text books on health promotion and medication management in care of older people.

Research centres include the Brunel Institute for Ageing Studies (BIAS), the Centre for Professional Practice (CPPR), Centre for Citizen Participation (CCP), Centre for Research in Rehabilitation (CRR), Centre for Child and Youth Research (CCYR), Centre for Human Geography (CHG) and the Centre for Youth Work Studies (CYWS).

You may apply to work on one of our pre-defined projects or propose a self-chosen project.

RESEARCH AREAS

• Health research
• Health promotion and public health
• Health care law
• Health and social policy
• Community health care nursing
• Health economics
• Occupational health and safety
• Health management and counselling

CURRENT PROJECTS

Our researchers are currently involved in collaborative projects with organisations such as the Quality of Life Group of the European Organisation for Research and Treatment of Cancer, Department of Trade and Industry backed Knowledge Transfer Partnerships with North West London Acute Trusts, Haringey Primary Care Trust, the Ethiopian Community Centre and the University of Magdeburg and the International Union of Health Promotion and Education.

CONTACT US

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INGRID BACON

“I entered the world of Brunel University to study Occupational Therapy. After completing my degree, I had the opportunity to work in different countries, where I practiced as a mental health clinician. I obtained two Masters degrees in Psychology and Health Studies.

In April 2011, I applied for a PhD Scholarship at Brunel, which also involved some teaching responsibilities. The financial element of this was a key enabler in being able to pursue my dreams.

I am currently in the second year of my PhD and although it is hard, I am enjoying every minute. I had the opportunity to teach on several different modules and also to mark assignments.

I have received immense support from the module leaders and supervisors. I also had the opportunity to receive training and support through the Graduate Learning and Teaching Programme, which offered an opportunity to develop my teaching skills, and also to reflect on my future career as an academic.”
The Journalism PhD offers you the chance to complete a substantial work within our Centre for Advanced Journalism Practice, an exciting research environment in London. You will benefit from the experienced supervision of our tutors, all of whom are former or current journalists as well as academics.

It is an ideal progression from a Master’s degree, or for professional journalists wishing to gain a doctorate, such as those wishing to teach journalism at university level.

Journalism research at Brunel can embrace the examination of practice – both your own or that of others – and critical reflection and research into the educational and social impact of this discipline. Graduates are offered expert support in professional preparation of their thesis and are expected to establish a strong publication record.

**RESEARCH AREAS**

We can support a wide range of interdisciplinary studies into journalism, including (and not limited to):

- Reflexive, research-led practice
- Journalism history
- Occupational studies
- Journalism and trauma
- Representation of gender, ethnicity, disability, sexuality
- Journalism genres

**CURRENT PROJECTS**

Sarah Niblock, Professor of Journalism, is currently looking at the effects of reporting child grooming cases on care policy. Other research interests within the team currently include broadcast regulation, visual journalism, psychoanalysis and journalism and much more.

Sawsan Taha’s thesis examines the reporting of internal conflicts in Middle Eastern countries.

**CONTACT US**

www.brunel.ac.uk/contact-admissions
Law research at Brunel covers a wide range of subjects including human rights, public law, commercial law and international commercial law, criminal law and criminal justice, and private law. It includes doctrinal, theoretical, socio-legal and empirical, comparative and historical research.

Research centres and research groups hold regular research seminars, workshops and conferences, as well as providing a forum for PhD students to discuss their work and be involved in research activities related to their thesis. Law at Brunel welcomes applications for a PhD, MPhil or LLM by research.

**RESEARCH CENTRES**

Brunel Law has a number of highly active Research Centres and are responsible for the publication of three highly respected journals: *State Practice and International Law*, *Journal of Islamic State Practices in International Law*, and *International Human Rights Law Review*.

- Brunel Centre for the Study of Arbitration and Cross-Border Investment
- Centre for International and Public law
- Company and Commercial Law Group
- Criminal Justice Research Centre
- Family Law Research Group
- Human Rights Centre
- Intellectual Property, Internet and Media Research Centre
- Law and Religion Research Group

**RESEARCH AREAS**

- Arbitration and alternative dispute resolution
- Banking and finance
- Company law and corporate governance
- Comparative law
- Competition law
- Consumer law
- Contract
- Criminal justice
- Criminal law
- Discrimination law
- Environmental law
- European Union law
- Evidence
- Family and child law
- Gender and the law
- Human rights
- Intellectual property
- International economic law
- International trade law
- Internet law
- Islamic Law
- Labour law
- Legal history
- Legal practice
- Legal theory and jurisprudence
- Media law
- Nationality, immigration and asylum
- Privacy and data protection
- Procedure
- Public international law
- Public law
- Religion and the law
- Restitution and unjust enrichment
- Socio-legal studies
- Southern African Development Community
- Taxation
- Terrorism and the law
- Tort
- Trusts and equity

**CURRENT PROJECTS**

Prejal is conducting research in the field of comparative criminal justice on the subject of police interrogation and its impact on suspects’ rights; a comparative study between India and England and Wales.

**CONTACT US**

[www.brunel.ac.uk/contact-admissions](http://www.brunel.ac.uk/contact-admissions)
The Experimental Techniques Centre (ETC) specialises in high level characterisation and analysis of a wide spectrum of materials. It encompasses bioengineering and biosciences, the environment, and an extensive range of engineering. ETC provides an accredited evaluation service to industries and a wealth of collaborative opportunities for external research and development enterprises.

ETC focuses on surface science, thin films, materials and nanoscale investigations. A wide range of techniques are available, including electron microscopy (SEM and TEM), X-ray photoelectron spectroscopy (XPS), atomic force microscopy (AFM) and Fourier-transform infra-red spectroscopy (FTIR). There is an X-ray diffractometer (XRD) for crystal structure studies as well as a Secondary Ion Mass Spectrometer (SIMS) for surface chemistry investigations. There are openings for postgraduate research students in varied areas of investigation, with funded places available in some instances.

RESEARCH AREAS

- Thin films and coatings
- Environmental science
- Archeometallurgy
- Nanoparticles
- Pollution remediation
- Forensic science
- Cell interactions with metals

CURRENT PROJECTS

- A Wodylka, materials selection
- Dr N Attard-Montalto, fingerprint chronology
- N Nelson, diamond-like carbon and tool wear
- A Tagg, microplastics in the environment
- N Faridamin, cell surface potential
- Laser cutting of fibres

Alexander Tagg is currently undertaking his PhD which looks to investigate the fate of microplastics in the wastewater treatment process. This work is being done both at the ETC and FERA (The Food and Environment Research Agency). Alexander’s work will incorporate many aspects of surface analysis, particularly FPA-based micro-FTIR and TOF-SIMS. Microplastics are tiny (<1mm) particles of plastic that are being more and more documented in aquatic systems. Despite more work being published on the occurrence of microplastics, little has been done to investigate both the implications of such plastics in the environment and the ways in which these plastics enter the environment.

CONTACT US

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www.brunel.ac.uk/etc
The Wolfson Centre for Materials Processing focuses on materials science. Established in 1987 by Professor Mike Bevis with the help of a generous grant from the Wolfson Foundation, the Centre has grown to become a distinguished international centre of excellence for materials technology.

The Centre has a wide range of techniques available, including scanning electron microscopy, raman spectroscopy, thermogravimetric analysis, differential scanning calorimetry and nanoindentation.

RESEARCH AREAS
- Nanomaterials
- Nanophosphors and nanostructured carbon
- Biofuels
- Polymer extrusion
- Biodegradable food packaging
- Organic light emitting diodes (OLEDs)
- Display materials

CURRENT PROJECTS
Dr P Allan is conducting an investigation into the use of materials from renewable resources for automotive components with improved physical properties. Other projects currently active in the Centre are studying bio-fuels, OLEDs, phosphors, natural polymers and fibres, cements and recycled materials.

CONTACT US
www.brunel.ac.uk/contact-admissions
wolfson-centre@brunel.ac.uk

AMIR KHAMSEHNEZAD
“For my PhD I am investigating the application of ultrasonic vibrations on polymer processing for the improvement of product properties.”
Mathematics at Brunel is a large, active department with a significant number of PhD students. Within Applied Mathematics we have a strong research presence in Applied Analysis, Computational Mathematics, Continuum Mechanics and Mathematical Physics. We also have an active group working in Statistics and Operational Research.

Mathematics at Brunel offers PhD, MPhil and the Brunel Integrated PhD (formerly the New Route PhD). More information of the Brunel Integrated PhD is available on page 30.

The department is home to three Research Centres and three Research Groups.

**RESEARCH GROUPS**
- Computational and Applied Mathematics Group (CAM)
- Financial Mathematics, Operational Research and Statistics Group (FORS)
- Mathematical Physics and Combinatorics Group (MPC)

**RESEARCH CENTRES**
- **BICOM** – Brunel Institute of Computational Mathematics, specialising in the theory and application of finite element methods.
- **BURST** – Brunel University Random Systems Research Centre, specialising in the study of random phenomena.
- **CARISMA** – Centre for the Analysis of Risk and Optimisation Modelling Applications, focusing on risk and optimisation, especially in the field of finance.

**CURRENT PROJECTS**

*Suren Islyaev* is working towards a PhD in Operational Research. Her goal is developing meaningful, computationally efficient financial models. She develops models with random parameters, which enables pricing of financial instruments such as futures contracts and options. She is also interested in forecasting possible price movements.

*Xiang Yu*’s thesis is entitled *New Sentiment and its Applications in Finance*. With the development of technology and computer science techniques, machines are now able to read and deduce the sentiment of text. This is presented as a quantitative measure that we believe can bring additional value to the prediction of stock prices. We build prediction models for stock price return, volatility and liquidity for both a univariate and multivariate setting.

**CONTACT US**

[www.brunel.ac.uk/contact-admissions](http://www.brunel.ac.uk/contact-admissions)
MECHANICAL/ AEROSPACE ENGINEERING

Mechanical Engineering is home to Aerospace/Aviation Engineering, Motorsport/Automotive Engineering, Building Services and Energy Studies. Mechanical/Aerospace engineering covers the design and development of every kind of machine – from supersonic fighter jets and toasters to mobile phones and artificial organs. Research activities and projects are mainly carried out in collaboration with partners from industry, as well as universities and scientific organisations in the UK and abroad.

Research programmes include MPhil, PhD and Brunel Integrated PhD. More information on the Brunel Integrated PhD is available on page 30. Research students are provided with research and software training, and are encouraged to present their work at research seminars and conferences, for which some funding may be available.

RESEARCH AREAS

• Aerospace engineering
• Applied mechanics and biomedical engineering
• Biofluid mechanics
• Computational mechanics
• Energy and built environment
• Engineering dynamics
• Automotive powertrain and fuels

CURRENT PROJECT

‘Vortex induced vibration and structural integrity of deep water flexible risers’ by H. Bahai, G. Alfano & J. Wissink is a multidisciplinary project funded and supported by EPSRC and industry, within a consortium led by Brunel University London including Imperial College and the University of Southampton as academic partners and BP and Shell as industrial collaborators. The objectives of the project include the development of a multi-scale and multi-physics numerical model to simulate the complex non-linear behaviour of unbonded flexible pipes, which are increasingly being used in the oil & gas industry to access and exploit deep-water hydrocarbonate resources.

CONTACT US

www.brunel.ac.uk/contact-admissions

BEN MOXEY

“I am doing a PhD in the Centre for Advanced Powertrain and Fuels Research (CAPF) investigating the combustion flame development and burning characteristics of alcohol fuel blends in a spark-ignition engine. This work has involved designing a specialised cylinder head with a glass roof so I can use a high-speed camera to record the combustion. With these images, using in-house software, I can compare and contrast the differences between how the various fuels burn and interact. My studies have been so well supported by my supervisor and the department; I was even able to go to Poland to a conference to present a paper based on the work I was doing. Next I will be joining the automotive consultancy MAHLE Powertrain.”
MUSIC

At Brunel the focus is on twenty-first century musicianship. Programmes focus on the music of our time, but are informed by a broader understanding of the history and materials of western music and of other musical traditions.

Staff include some of the leading figures in European contemporary music: composers John Croft, Christopher Fox, Colin Riley and Jennifer Walhe, ensemble music innovator and improvisation leader Peter Wiegold, musicologist Nicholas Attfield, jazz musician Frank Griffith, electronic music experimentalists Harald Muenz and Carl Faia and leading contemporary pianist Sarah Kingdom-Nicolls. Artists in association include Apartment House, Leafcutter John, and Piano Circus, who work with postgraduate composition students through workshops. Supervision is offered at MPhil and PhD levels.

RESEARCH AREAS

- Brunel Institute for Contemporary Middle-Eastern Music
- Centre for Contemporary Music Practice
- Institute of Composing

CURRENT PROJECTS

Christopher Fox, Professor of Music, is working on a series of compositions which explore how we perceive music - what we hear and how we remember it. His most recent large-scale work is Tales from Babel, a collaboration with speech scientists and the vocal ensemble, The Clerks, which explores the extent to which our brains are able to process different strands of information which are being received simultaneously.

CONTACT US

www.brunel.ac.uk/contact-admissions

GREGORY EMFIETZIS

“The main reasons I chose Brunel were my supervisor, Professor Christopher Fox, and a dynamic music department, home to some of the biggest names in British contemporary music such as Bob Gilmore and Peter Wiegold. My time at Brunel helped my development greatly. It wasn’t only the high level of teaching and supervision I received – I am particularly fond of the direction and accompaniment I enjoyed, the motivation and encouragement, the widening of my horizons. Since I left Brunel there have been many interesting work opportunities.

I was selected as part of the London Symphony Orchestra’s Soundhub Scheme, where I’ve created Music Impossible, a shadow music theatre project, and am currently developing new work for the London Symphony Orchestra. I won a competition hosted by the Wiener Konzerthaus to mark its 100th season and worked with musicians of the Berlin and Vienna Philharmonics for the performance of my work Fear (not). The last of this series of engagements was the recent production of my opera The Darkness of Mistico (libretto by M.Loulaki), produced by the Greek National Opera.”

PAUL MCGUIRE

“My research focuses on re-imagining how performers approach musical instruments, on sounds that are underused and often considered incidental. I completed Marshes (2013) for mass guitar ensemble; electric guitar players bow their instruments with pieces of dowel to generate a delicate, wailing sonority and beat their instruments with marimba mallets to create opaque bell-like drones. Acoustic guitar players bow their instruments with loosened cello bows, producing a “fizzing” sound. I use graphic notation: musical cells are plotted onto a horizontal timeline; each cell depicts the speed and pressure at which the instruments are bowed and the speed at which the guitars are beaten with mallets.”
The occupational therapy division is committed to evidence based practice and teaching. Our staff are active researchers and regularly publish in national and international journals. Our research activity is expanding and most is focused on current practice and linked with NHS Trusts or Social Service departments. We welcome applications for PhDs and potential applicants are welcome to contact members of the OT team:

www.brunel.ac.uk/chls/clinical-sciences/people

The Centre for Professional Practice Research draws upon academics, service users and practitioners with specific practice skills and/or an interest in research embedded within practice. A strong emphasis is placed on promoting critical debate and evidence based practice. Key areas of research are teaching and learning in professional practice, occupational therapy based research in practice, supportive environments and evidence based practice. The Centre runs a series of public lectures each year and has attracted international academic speakers such as Professor Jeannie Jackson, Professor Mary Law, and Professor Michael Iwama.

RESEARCH AREAS
We have expertise in wide range of clinical areas including:
- mental health
- older adults
- rehabilitation
- pediatrics

CURRENT PROJECTS
Dr Georgia Spiliotopoulou (PI), Dr Anita Atwal, Dr Anne McIntyre and Shirley Russell (British Polio Fellowship) were awarded a grant from the UKOTRF Research Priority Grant to develop, validate and determine the usability and reliability of national guidance on measuring the home environment for provision of minor assistive devices.

Nicola Plastow is an occupational therapist who was awarded a fellowship to fund a PhD project over three years to explore the relationship between performance of food-related activities and hoped-for and feared possible selves as older people age.

CONTACT US
www.brunel.ac.uk/contact-admissions
Our research focuses on the management of a range of long term musculoskeletal, neurological and respiratory conditions, including chronic pain, stroke and primary hyperventilation syndrome. Our research explores the efficacy of rehabilitation strategies, the environments in which they can be used and the patient’s lived experience of these conditions and their management.

The Physiotherapy division hosts the Centre for Research in Rehabilitation (CRR), an interdisciplinary research centre with diverse membership that reflects the complexity of rehabilitation as a dynamic field of practice and research. CRR focuses on physical disability and rehabilitation research. As a “Centre Without Walls” with flexible external links, it has become a magnet for the provision of expertise in research in rehabilitation. We also work collaboratively with our local health providers and practitioners in order to support research development and to ensure that our focus remains clinically directed to maximise its impact. PhD applications are invited for self-proposed topics or for research that is aligned with existing streams.

**RESEARCH AREAS**

- The effectiveness of contemporary rehabilitation strategies for long term conditions (with a focus on stroke, chronic pain and primary hyperventilation syndrome)
- Environmental influences on current rehabilitation strategies
- The development of novel rehabilitation approaches (with a focus on stroke, chronic pain)
- Exploring the lived experience of chronic illness

**CURRENT PROJECTS**

*Dr Neil O’Connell* has been investigating the use of emerging non-invasive brain stimulation technologies as a potential intervention for chronic pain. His research included systematic reviews and meta-analysis with the Cochrane Collaboration, an exploratory clinical study in patients with chronic low back pain and an investigation into potential biases in this field of clinical research.

*Alyson Warland* is currently undertaking PhD research into the use of Wii technology in stroke rehabilitation.

**CONTACT US**

[www.brunel.ac.uk/contact-admissions](http://www.brunel.ac.uk/contact-admissions)
Politics and History at Brunel prides itself on the quality and relevance of its work. It places great value on investigative and theoretical projects but also stresses the usefulness of its research to the community at large. Academics achieve impact by networking extensively with other scientists, policy makers and civil society, acting as researchers, educators, and advisors to the government and community.

ANDREW BRUNATTI

“For any prospective student a move to a new university, or a move back into university for an advanced degree, is a significant life decision. Deciding to leave government work in Canada and do my PhD was a risk, so I did plenty of research on my options. I definitely made the right decision. Studying at Brunel’s Centre for Intelligence & Security Studies means I am in a top-notch research centre. The faculty consists of world-renowned scholars in their fields doing research with real world policy impact.

As a student of politics, Brunel’s proximity to London offers excellent networking opportunities for research. In my specific field, this proximity has allowed me to regularly connect with researchers and practitioners from a multitude of other countries giving my research a more valuable global dimension.

Locally, the compact Brunel campus also ensures that it is easier for PhD students to collaborate across disciplines which I have found a significant advantage in my own work.”

PhD students benefit from working and researching alongside internationally leading scholars across a diverse range of topics and take an active role in the organization of local, national and international events and workshops. Students also benefit from a multidisciplinary Master Class programme aimed at offering students access to a range of theories, methods and skills in the Social Sciences.

Politics and History research centres, groups and networks promote international, interdisciplinary and high impact research by acting as key points of contact between academics, practitioners and the wider community, organizing major events, and hosting associated researchers.

RESEARCH AREAS
• Isambard Centre for Historical Research
• Brunel Centre for Intelligence and Security Studies (BCISS)
• Magna Carta Institute
• Social and Political Thought Research Group
• International Studies Research Group
• Brunel Heritage Research Network

CURRENT PROJECTS
Astrid Swenson is a specialist on cultural heritage in modern Europe. She is currently working on a research project supported by the British Academy on the enduring impact of the Crusades on modern notions of heritage, national identity and international relations.

Elisabetta Mocca is currently researching ‘Multi-level Governance and Environmental Policy: The role of Transnational Municipal Networks in the definition of local policy-making’.

CONTACT US
www.brunel.ac.uk/contact-admissions
Psychology at Brunel provides high quality research training in a stimulating, intellectually-intensive environment. Academic colleagues offer expert supervision and take an active and ongoing interest in the research being conducted. In addition to regular meetings with supervisors, research students participate in research seminars, and a variety of skills and methodology training sessions. Students are actively encouraged to present at disciplinary research seminars, and are encouraged to participate in national and international academic conferences. Psychology at Brunel has an international reputation for research excellence, covering a range of topics and methodological approaches using multiple complementary levels of analysis. Research interests cover a range of specialist areas including cognitive neuroscience, cross-cultural psychology, evolutionary psychology, health and behaviour, and psychoanalysis.

Research in Psychology is organised around five centres:

**RESEARCH CENTRES**

- Centre for Cognition and Neuroimaging (CCNI)
- Centre for Culture and Evolutionary Psychology (CCEP)
- Centre for Research in Infant Behaviour (CRIB)
- Centre for the Study of Expertise (CSE)
- Centre for the Study of Health and Well-being (CSHW)

**SOME CURRENT PROJECTS**

**Dr Tara Marshall**, Lecturer in Cross-Cultural Psychology, has examined cultural variation in attachment and intimacy in romantic relationships and the emerging role of social media.

**Dr Nicholas Pound** (senior lecturer) has carried out influential research on associations between testosterone and facial appearance, and also on the importance of facial masculinity and body shape for female mate choice (with Dr Andrew Clark, Dr Isabel Scott & Dr Michael Price).

**Jayanthiny Kangatharan’s** project looks at the possible contribution of vowel hyperarticulation to speech communication.

**Lisa Kunn’s** ESRC-funded project involves a developmental & cross-cultural investigation of emotions and traits related to human voice.

**Miki Tanaka’s** project explores the psychological reactions of people in Fukushima during the ongoing dangers of radioactivity.

**CONTACT US**

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The Social Work staff group at Brunel represents a wide range of practice and academic experience in social work and social policy. Through programme partnership, the Social Work division maintains close links with social service and voluntary organisations.

Research activities take place through five research centres, listed below.

**RESEARCH AREAS**
- Brunel Institute for Ageing Studies (BIAS)
- Centre for Child and Youth Research (CCYR)
- Centre for Citizen Participation (CCP)
- Centre for Human Geography (CHG)
- Centre for Youth Work Studies (CYWS)

**CURRENT PROJECTS**

**Professor Judith Harwin** was principal investigator of the funded independent first stage evaluation of the Family Drug and Alcohol Court (FDAC). The aims were to describe the FDAC pilot and identify set-up and implementation lessons, make comparisons with standard court proceedings involving parental substance misuse, including a comparison of costs, and to indicate whether this different approach might lead to better outcomes for children and parents.

**JASNA RUSSO**

“I am investigating the potential emergence of a social model of madness based on personal accounts, research and the analytic work of authors who identify as mental health service users or psychiatric survivors. The methodology of this project sets out to demonstrate the value of interaction, shared identity and dialogue in generating knowledge and understanding complex human experiences. The working title of my thesis is ‘Towards a first person-defined model of madness’.”
Sociology and Communications research at Brunel tackles core theoretical questions and engages with both the international research community and relevant groups across industry, government and the public, bringing together theoretical and practical concerns to develop fresh approaches to new and classic interdisciplinary themes and problems.

Brunel Sociology and Communications supervises MPhil and PhD students from around the world. You will be provided with careful supervision and rigorous, appropriate training. Students also benefit from a multidisciplinary Master Class programme aimed at offering students access to a range of theories, methods and skills in the Social Sciences.

Sociology and Communications welcomes enquiries from potential PhD candidates in any area of specialism. Members of our research centres and networks are at the forefront of study into subjects as diverse as globalisation, health, multiculturalism, new media, popular culture, science and technology.

**RESEARCH AREAS**

- Centre for Biomedicine and Society (CBAS)
- Centre for Culture, Media and Regulation (CCMR)
- Centre for Comedy Studies Research (CCSR)
- Moral Panic Research Network

**CURRENT PROJECTS**

**Sarita Malik**, Lecturer in Sociology and Communications, has been awarded a research grant from the Arts and Humanities Research Council (AHRC) to explore the debate around current filmmaking and cultural diversity. Her previous AHRC-funded project (2012) examined the role of Diasporic film and communities, in partnership with the British Film Institute. This new research aims to better understand how community filmmaking practices in culturally diverse contexts contribute to the wider film ecology.

Funded by a Wellcome Trust PhD Studentship, **John Gardner**’s project is entitled ‘A Sociology of Medical Innovation: Deep Brain Stimulation and the Treatment of Children with Dystonia’.

**Nancy Tamimi** is researching the use of electronic nicotine devices (E-Cigarettes).

**CONTACT US**

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SPORT, HEALTH AND EXERCISE SCIENCES

The Centre for Sports Medicine and Human Performance (CSMHP) focuses on integrative aspects of human physiology, biomechanics and psychology of sport and exercise. Our aim is to further the understanding of the regulation and adaptation of the cardiovascular, respiratory and neuromuscular systems to exercise and training, as well as the physiological, biomechanical and psychological limitations to human sport performance and exercise tolerance. Scientists working in the Centre also have backgrounds in cognitive psychology, neuroscience, motor control and learning, instructional systems design, human factors and sport science, which promote a multi-disciplinary approach to the study of human performance.

RESEARCH AREAS

- The Brunel Centre for Sport, Health and Wellbeing (BC•SHaW) – social sciences, sports management and psychology of sport
- The Centre for Sports Medicine and Human Performance (CSMHP) – biomechanics, physiology, sport psychology and motor control
- Centre for the Study of Expertise (CSE)

CURRENT PROJECT

Colm Murphy received funding from the Lawn Tennis Association (LTA) to initiate doctoral research under the supervision of Professor Mark Williams, Dr Robin Jackson and Dr Dan Bishop focusing on how best to capture and train anticipation and decision-making skills.

Colm works closely with his mentors at Brunel and uses player-based tracking data from the LTA to create computer-based animations of match situations. These are used to design experiments and player tests, the result of which will improve interventions that enhance the development of anticipation and decision-making skill.

CONTACT US

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Theatre at Brunel offers supervision for MPhil and PhD research degrees in a wide range of areas, primarily in performance as research and theatre practice/theory, performance writing and digital performance/media arts.

The Centre for Contemporary and Digital Performance runs an annual series of Performance Research Seminars. The Centre’s research group seeks to explore and to help define the future of performance and theatre particularly in its intersections with digital cultures, and with new media technologies and communications in the creative industries.

RESEARCH AREAS
- Theatre history
- Gender and sexuality in performance
- Post-colonial drama and dance
- Performance writing and live performance creation
- Directing and script development
- New dramaturgies and scenographic practices
- Digital performance and digital art
- Interactive wearable design
- Choreography and mixed reality choreographic/installation
- Alternate embodiments/virtual world performance
- Bio-art and bio-technologies
- Performance of socially engaged practices
- Site-specific and contextualized performance
- Applied drama/community politics
- Gender and sexuality in performance
- Audio-visual art and live coding

CURRENT PROJECTS

Prof Thomas Betteridge is working on an AHRC funded project Staging and Representing the Scottish Renaissance Court, centred upon Sir David Lyndsay’s play A Satire of Three Estates. The aim was to examine through performance Lyndsay’s extraordinary play and to locate it within current debates over Scottish identity and culture.

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LIZETA MAKKA

“My research examines the current economic and institutional crisis in Europe, mainly in Greece, and analyses the crucial encounter between tragedy and modernity that helped shape modern notions of ethics and the relationship between the aesthetic and political. It also examines the occupation of public spaces as an act of resistance and protest against political authorities.”