

Information for PhD Applications from Kufa University, Iraq.

Prepared by

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General Information about Research areas for PhD applications

For full details about our Research activities see our Web pages at URL

<http://www2.le.ac.uk/colleges/medbiopsych/research/themes>

And URL

<http://www2.le.ac.uk/colleges/medbiopsych/structure>

and follow the links therein.

Conditions for PhD Entry

1. Academic qualifications.
BSc plus MSc in a relevant subject, with MSc grade of 70% or higher.
2. English Language qualification.
IELTS 6.5 or TOEFL 575(paper) /90(web)
English Language Tuition is available at Leicester through a series of pre-PhD courses which will help applicants to reach the required level.
3. Scholarship support.
Funding to student for 4 years of PhD study to include; University full-time Tuition/registration fee (see below), student stipend/living costs, travel, insurance.
Funding for pre-PhD English Language Tuition in Leicester; as needed, up to 1 year.
4. University full-time Tuition/Registration Fees for 2012/13

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|------------|---|-----------|
| Low Fee | (Office/computer-based, or basic laboratory research) | £14,645pa |
| Medium Fee | (Molecular bioscience laboratory research) | £18,980pa |
| Higher Fee | (Research using advanced high cost technology) | £23,645pa |

The fee charged will depend upon the type of research project to be undertaken and will be decided at the time of application. Note; fees may increase in subsequent years.
5. Availability of a suitable member of Leicester academic staff with appropriate experience and who has sufficient capacity, resources and time to undertake supervision of the PhD project.

Please note: Decisions about applications cannot be made instantaneously.

Departments/supervisors normally need 3 to 4 weeks to process the application, which may include interviewing candidates by telephone or SKYPE and negotiation of a suitable PhD training plan and research project.

Currently there is capacity for 76 suitable PhD students to start in 2012

See individual departments below for distribution

DEPARTMENTAL INFORMATION

- RESEARCH AREAS and * PhD PROJECTS (where known) AVAILABLE for 2012

Department of Biochemistry

<http://www2.le.ac.uk/departments/biochemistry/research>

- Protein structure and function
 - * Bioinformatics and Molecular Modelling.
 - * Domain motion in cytochrome P450 reductase.
 - * Understanding gluconeogenesis in *Campylobacter*.
- Gene expression
 - * Structural and functional studies of transcriptional repression complexes.
 - * Analysis of pre-mRNA splicing mechanisms using single molecule methods.
- Cancer cell, molecular & developmental biology
 - * Mechanism of chromosome segregation in mammalian cells.
 - * Exploring the therapeutic potential of the p53 pathway in B-cell malignancies.
 - * Role of tropomyosin in epithelial-mesenchymal transition in human cancer.
 - * Use of tailed oligonucleotides as potential therapies in cancer.
- Cardiovascular & microbial diseases
 - * Understanding the essential requirement for HDAC1 and HDAC2 in tissue development and homeostasis: implications for disease and therapy.
 - * Molecular characterization of collectin-K1 in health and disease.
 - * Molecular dysfunction in congenital skeletal muscle myopathies.
 - * Molecular basis of genetic cardiomyopathies.

Capacity for up to 12 PhD students

Department of Biology

<http://www2.le.ac.uk/departments/biology/research>

- Neuroscience and Behaviour
- Plant Cell and Molecular Genetics
 - * Dissecting chloroplast protein import apparatus in *Arabidopsis* using forward genetics.
 - * Structural analysis of transit peptide binding to the chloroplast pre-protein import receptors of the TOC complex.
 - * Investigating the function of OEP80, an Omp85-related protein, in chloroplast biogenesis.
 - * Genomics, biodiversity and genome evolution in crop plants and other species.
 - * Evolution and development of fruits and seeds: focusing on cereal grains and basal dicot species to compare genetic mechanisms underlying fruit and seed development.
- Evolutionary Biology
- Biodiversity
 - * Ecological investigations into the nature and mechanisms of water pollution; impact of agriculture and the mitigation of diffuse pollution sources, using principles of ecotoxicology.

Capacity for up to 6 PhD students

Department of Cancer Studies & Molecular Medicine

<http://www2.le.ac.uk/departments/csम्म/research>

- Cancer Biomarkers and Chemoprevention
 - * Biological significance of 5-hydroxymethylcytosine and other cytosine modifications in genomic DNA in cancer development and its chemoprevention.
 - * Radiobiology including DNA radiation chemistry/radiation cell biology/radiation oncology.
 - * Drug Genotoxicology including DNA-chemotherapeutic drug interactions/DNA interaction in chemical carcinogenesis.

College of Medicine, Biological Sciences & Psychology: University of Leicester

- * Ascorbate acceleration of melanomas cell death via modulation of oxidative stress; vitamin C, a DNA-damage switch in cell death?
- * Investigating the redox duality of vitamin C; uncovering novel pro-oxidant effects of ascorbic acid.
- * Resveratrol and cancer chemoprevention: identification of the important mechanisms in humans.
- * Use of human adult stem cell models for assessing the efficacy of cancer chemopreventive and chemotherapeutic agents
- Cell Signalling and Molecular Pathology
 - * Mechanistic insights into the role of S100A4 in pancreatic cancer.
 - * miR-125b function in chronic lymphocytic leukemia and potential for therapy.
- Reproductive Sciences
- Translational Clinical Research

Capacity for up to 7 PhD students

Department of Cardiovascular Sciences

<http://www2.le.ac.uk/departments/cardiovascular-sciences/research>

- Cardiovascular Genetics and Genomics
- Cardiovascular Cell Biology and Cell
- Cardiovascular Physiology and Pathophysiology
- Population Research and Clinical Trials

Capacity for up to 7 PhD students

Department of Cell Physiology & Pharmacology

<http://www2.le.ac.uk/departments/cpp/research>

- Neurosciences
 - * Early ionic events during injury of the developing brain.
 - * Short & long term regulation of ion channel phenotype in spiral ganglion neurons during noise-induced hearing loss.
 - * Visualising neurodegenerative memory disruption.
 - * Role of serotonin in cortical network formation.
- Cardiovascular Science
 - * Identification of the C-peptide receptor; a novel therapeutic target for treatment of diabetes.
 - * Molecular basis of drug action at P2X receptors for ATP.
 - * Role of the beta 2-AR and wound electric fields in wound healing.
- Respiratory Science

Capacity for up to 7 PhD students

Department of Genetics

<http://www2.le.ac.uk/departments/genetics/research>

- Behavioural Neurogenetics
- Human & Medical Genetics
- Genetics of Micro-organisms
- Bioinformatics
- Genetics Education

Capacity for up to 4 PhD students

Department of Health Sciences

<http://www2.le.ac.uk/departments/health-sciences/research>

- Study of Health in Populations and Society (Biostatistics, Genetic Epidemiology, Social Science Applied to Healthcare Improvement Research, Infant Mortality and Morbidity Studies)
 - * Development and use of methods for meta-analyses and synthesis of evidence
 - * Development and application of appropriately realistic and complex models of health services research & technology assessment, based on Bayesian statistical methods.
 - * Relative survival methods
 - * Joint modelling of biomarkers and clinical outcome data
 - * Health economic data analysis
 - * Reproductive, perinatal & neonatal epidemiology
- Primary Care (Cardiovascular/Diabetes, Quality and Service Delivery, Health and Disability)
 - * Diabetes – prevention, prediction and early detection
 - * Epidemiology of Diabetes
 - * Risk prediction of glucose disorders
- Social and Epidemiological Psychiatry (Adult Psychiatry, Psychiatry for the Elderly, Forensic Psychiatry, Child Mental Health)
- NIHR Research Design Service
- Hospital Disciplines (Anaesthesia and Pain management, Orthopaedic Surgery)

Capacity for up to 4 PhD students

Department of Infection, Immunity & Inflammation

<http://www2.le.ac.uk/departments/iii/research>

- Microbial Sciences
 - * Infectious diseases (tuberculosis, pneumonia, meningitis, seasonal & pandemic influenza, gastrointestinal infections)
 - * Vaccine and drug development.
 - * Bacteriophages to combat antibiotic-resistant pathogens.
 - * Environmental impact of photosynthetic bacteriophages.
 - * Innate Immunity
- Respiratory Sciences
- Nephrology

Capacity for up to 11 PhD students

MRC Unit of Toxicology

<http://www.mrctox.le.ac.uk/research/>

- Post-transcriptional control of gene expression.
- MicroRNA regulation of gene expression.
- Molecular determinants of apoptosis.
- Regulation of the cytotoxic response in Mature B-cells
- Neurotoxicity at the synaptic interface
- Receptor-mediated signalling & cell death.
- Cell death regulation.
- Mechanisms of neurotoxicity.
- Apoptosis in cancer.

Department of Medical and Social Care Education

<http://www2.le.ac.uk/departments/msce>

- Medical Education Research, to develop medical education in developing countries.
 - * Curriculum design, course evaluation, teaching & assessment of consultation skills (including clinical reasoning), and group/team work.
- Social Care
 - * Team working in health and social care and its impacts upon patient care, service design and delivery.
 - * Teaching and learning relating to professional curriculum and practice.
 - * Child and family social work.
 - * Promoting and safeguarding child welfare.
- Integrated Medical Sciences (Neurophysiology of mammalian motor control mechanisms)
 - * In-vivo studies on brainstem mechanisms and control of rhythmic motor drive.
 - * In-vivo studies in the determination of membrane and neuronal firing properties in brainstem interneurons.
 - * The neurophysiological basis of motor tone.
 - * In-vitro studies in the determination of membrane and neuronal firing properties in brainstem interneurons.

Whole system *in vivo* electrophysiology studies.

Capacity for up to 4 PhD students

School of Psychology

<http://www2.le.ac.uk/departments/psychology/research>

- Behavioural Neuroscience
 - * Neurochemical changes in learning and memory.
 - * Neurochemical changes in models of stroke, psychosis or addiction.
 - * Neuroprotection in models of stroke.
 - * Attention related to schizotypy, schizophrenia and cerebral lateralisation.
- Cognitive Psychology & Perception
 - * Spatial attention, spatial relationships, and perceptual organisation.
 - * Learning & memory using neuropsychology, electrophysiology and virtual reality methods.
 - * Reading and reading disorders.
 - * Motion and depth perception.
 - * Visual attention and eye movements.
 - * Clinical aspects of vision and visual cognition.
 - * Can behavioural vision therapy improve functional vision in the elderly.
 - * Word recognition & reading in Perso-Arabic languages.
- Social & Applied Sciences (Forensic Psychology and Intervention & Prevention Research)
 - * Face processing in criminal identification line-ups.
 - * Effects of alcohol on memory assault.
 - * Evaluation of child mental health services and interventions.
 - * Impact of trauma on child mental health.
 - * Psychological aspects of patients' adjustment to chronic illness (eg. diabetes, cardiovascular disease)
 - * Making judgements about cancer screening; use of frequency range theory.

Capacity for up to 14 PhD students