

2010-11 London Metropolitan University Vice Chancellor's PhD Scholarship Scheme Policy, Procedures and Eligible Project Areas Guidance for Applicants

Summary for applicants

- London Metropolitan University is offering a number of 3 year Scholarships for PhD students, full details of which are provided under **Section I** (below)
- All Scholarships are only available for students studying on a full-time basis who are not currently registered for a postgraduate research degree
- All Scholars are required to take the University's Learning & Teaching Practice (LTP) Course and to contribute to the delivery of taught courses for up to 6 hours per week pro rata as part of the requirements for this Course
- All Scholarships cover the cost of full-time tuition fees for up to 3 years
- Scholarships in some project areas also provide an annual stipend (i.e. living allowance) for 3 years set at UK Research Council rates (in 2010-11 this is £1 3,590pa tax free)
- Stipendiary Scholarships are only available for home/EU students, while fees-only Scholarships are also available for overseas/non-EU students
- The deadline for receipt of applications for 2010-11 is 1st October 2010. A summary of the application and selection procedures is provided under **Section II** (below) and a copy of the application form can be accessed at: <http://www.londonmet.ac.uk/londonmet/research/the-graduate-school/Vice-Chancellors-phd-scholarships.cfm>
- A full list of eligible project areas is provided under **Section III** (below) – applicants must indicate the project area to which they are applying

Section I - Vice Chancellor's PhD Scholarship Scheme Policy

Background

On an annual basis, London Metropolitan University aims to offer a number of Postgraduate Research Scholarships to students registered for MPhil/PhD on a full-time basis. Scholarships are based within one of the University's eight Academic Faculties and their associated Research Institutes:

- Faculty of Applied Social Sciences; including:
 - Human Rights and Social Justice Research Institute
 - Institute for the Study of European Transformations
 - Working Lives Research Institute
- Faculty of Architecture and Spatial Design
- Faculty of Law, Governance and International Relations
- Faculty of Computing
- Faculty of Humanities, Arts, Languages and Education; including:
 - Institute for Policy Studies in Education
 - Learning and Technology Research Institute
- Faculty of Life Sciences
- London Metropolitan Business School; including:
 - Cities Institute
- Sir John Cass Faculty of Art, Media and Design

Eligibility and selection

Postgraduate Research Scholarships are awarded competitively to suitably qualified applicants following advertisement and interview. The Scholarships are not available to any applicant who is already enrolled/registered as an MPhil/PhD student at London Metropolitan University or elsewhere. Any applicant holding an upper second or first class honours degree or a Masters-level degree or an equivalent qualification or experience in an appropriate subject are eligible to apply. Interviews will be held in person or by telephone with short-listed applicants, by a committee comprising the prospective supervisors and Faculty Dean/Research Institute Director (or designate).

Remuneration

London Metropolitan University offers two types of PhD Scholarships:

1. Fees-only Scholarships: covering the full-time fees* for successful applicants for up to three years – for which home/EU and overseas/non-EU applicants are eligible
2. Stipendiary Scholarships: covering the full-time fees* and an annual stipend/living allowance** for up to three years – for which only home/EU applicants are eligible.

*Fees for full-time postgraduate research students are subject to change. For 2010/11 these fees are: £5,400-£6,750pa (home/EU students) and £10,800 (overseas/non-EU students).

**The annual stipend is set at UK Research Council rates and as such is subject to change. For 2010/11 the stipend amounts to: £1 3,590pa tax-free.

Note: All Scholarships are subject to six-monthly review through the assessment of successful progression by the relevant Research Student Progress Group (see below). Scholars are not permitted to withdraw or change their mode of study from Full- to Part-time without losing their Scholarship and repaying the full amount of Scholarship funds received up until that date.

Student Responsibilities

All recipients of Postgraduate Research Scholarships at London Metropolitan University are required to comply with the University's Postgraduate Research Degree Regulations and Procedures. These require students to undergo an initial period of enrolment for six to twelve months during which the student and their supervisors prepare a detailed research proposal and related documentation (including their researcher skills training portfolio) as part of a formal registration application. Students are able to engage in initial empirical research (including primary data collection) during the period of enrolment prior to registration, provided they comply with the University's Research Ethics Policy and Procedures and have received research ethics clearance. However, under these circumstances students may be required to modify their research methods (and, where appropriate, re-apply for ethics clearance) if this is a required condition at registration.

Full-time MPhil/PhD students are assessed twice a year by one of the University's eight Faculty-based Research Student Progress Groups. These Groups independently assess: registration applications (which are normally expected to be submitted within six months of enrolment and no later than twelve months following enrolment); six-monthly progress reports and associated written material; and, in the case of students registered for MPhil with possibility of upgrade to PhD, formal applications for upgrading from MPhil to PhD (which must be submitted by the end of the first 18 months of registration). Students who do not successfully apply for registration or upgrading within these deadlines, or whose progress reports are referred at two successive Research Student Progress Groups, will normally be required to withdraw.

All recipients of Vice Chancellor's PhD Scholars are eligible to the same leave entitlements as those in receipt of UK Research Council Studentships and students who need to suspend their registration on personal or health grounds can do so for periods of up to 6 months, but must apply in advance and will not receive any stipendiary payments (where relevant) during the period of intermission/suspension.

Vice Chancellor's PhD Scholarships are payable monthly pro-rata and are provided for one year in the first instance and are renewable for up to 2 additional years subject to the assessment of successful progression by the relevant Research Student Progress Group (see above).

All recipients of Vice Chancellor's PhD Scholarships at London Metropolitan University (i.e. both those in receipt of a fees-only and stipendiary Scholarships) are also required to take the University's Learning & Teaching Practice (LTP) Course in addition to their postgraduate research degree. As part of this course, all recipients of Scholarships are required to contribute to the delivery of taught courses for up to 6 hours per week or equivalent pro-rata. The LTP is a single module delivered during a single semester, and can be completed at any stage throughout the three-year studentship, successful completion of which offers eligibility for Associate Membership of the UK's Higher Education Academy (HEA). As such, the Course is designed to ensure that students are afforded the opportunity to develop an appropriate level of training for the contribution they will make to taught courses within their Faculty, and to develop the professional skills required as Associate Members of the HEA

Supervisor Responsibilities

At enrolment, successful applicants for Postgraduate Research Scholarships will normally be allocated a supervisory team of at least three supervisors in addition to a link tutor (who may be an existing member of the supervisory team) from the Faculty in which they will be contributing to the delivery of taught courses.

Supervisory teams comprise a Director of Studies (an experienced supervisor responsible for ensuring that the student complies with the University's Postgraduate Research Degree Regulations and Procedures) and at least two additional supervisors. One member of the supervisory team will adopt the role of lead supervisor, providing the bulk of supervisory input. Collectively, the supervisory team will provide a minimum of 44 hours of supervisory contact time per annum.

The link tutor will be responsible for liaising with the supervisory team on the timing of the student's contributions to the delivery of taught courses to ensure that these are scheduled around the student's research activities. The link tutor is also responsible for ensuring that the student has appropriate levels of support and guidance to enable them to contribute effectively and at an appropriate level to the delivery of taught courses within the Faculty.

Learning Agreement

All successful candidates for the Vice Chancellor's PhD Scholarships will be required to sign an undertaking at enrolment that they have read and accept the conditions of their Scholarship award as outlined in this policy and procedures.

Section II— Vice Chancellor's PhD Scholarship Scheme Application and Selection Procedures

Eligibility

Applicants should ensure that they comply with the eligibility criteria (outlined above) before submitting an application. The Scholarships are only available for applicants who: are not currently registered for a postgraduate research degree; have an upper second or first class honours degree or a

Masters-level degree or an equivalent qualification or experience in an appropriate subject; are able to study full-time for three years; and are able to enrol and start their studies in November 2010.

Project areas

Eligible applicants are encouraged to review the list of project areas provided under **Section III** (below) and, where necessary, to correspond by email with the project area's named Contact Person to establish whether this matches their research interests and expertise.

Application

All applicants must complete in full the application form that is available to download at: http://www.londonmet.ac.uk/londonmet/research/the-graduate-school/Vice_Chancellors-phd-scholarships.cfm. The application form should be attached to an email and sent to research@londonmet.ac.uk by **1st October 2010**. (Please remember to include the reference code for the project area for which you are applying). It is intended that all applications will be acknowledged by email no later than **8th October 2010**, and all subsequent correspondence with applicants will be conducted by email.

Selection process

It is intended that all applications will be shortlisted by Academic Faculties no later than 22nd October 2010 when shortlisted applicants will be invited for interview either in person (where possible) or by telephone (where necessary) by 29th October 2010. Shortlisted applicants who are able to attend for interview in person will be able to claim up to £50 to defray any travel expenses following submission of appropriate receipts to the Research & Graduate School.

Formal offers and enrolment

The Research & Graduate School intends to contact successful applicants to make them a formal Scholarship offer no later than 5th November 2010. Successful applicants will be required to confirm whether they are able to accept these offers no later than 12th November 2010 and applicants who accept an offer will normally be required to attend an enrolment appointment in person at the Research & Graduate School in London no later than 19th November 2010.

Proposed schedule

1st September-1st October:	applications open for 2010-2011 Vice Chancellor's PhD Scholarships
4th-8th October:	applicants notified that their applications has been received
11th-22nd October:	shortlisted applicants invited to interview
25th-29th October:	shortlisted applicants attend interviews (in person or by telephone)
1st-5th November:	successful applicants notified of formal Scholarship offer
8th-12th November:	successful applicants confirm whether they accept Scholarship offer
15th-19th November:	confirmed applicants attend enrolment appointment
December:	enrolled applicants attend first meetings with supervisors

Section III - Eligible Projects and Project Areas

- 1. Faculty of Applied Social Sciences; including:
Human Rights and Social Justice Research Institute
Institute for the Study of European Transformations
Working Lives Research Institute***

Ref 1.1 - Child and Woman Abuse Studies

Contact Person: Dr Anna Gough-Yates ([email: a.goughyates@londonmet.ac.uk](mailto:a.goughyates@londonmet.ac.uk))

Ref 1.2 - Criminology

Contact Person: Dr Anna Gough-Yates ([email: a.goughyates@londonmet.ac.uk](mailto:a.goughyates@londonmet.ac.uk))

Ref 1.3 - Cultural Studies

Contact Person: Dr Anna Gough-Yates ([email: a.goughyates@londonmet.ac.uk](mailto:a.goughyates@londonmet.ac.uk))

Ref 1.4 - Information Management and Communications

Contact Person: Dr Anna Gough-Yates ([email: a.goughyates@londonmet.ac.uk](mailto:a.goughyates@londonmet.ac.uk))

Ref 1.5 - Media Studies

Contact Person: Dr Anna Gough-Yates ([email: a.goughyates@londonmet.ac.uk](mailto:a.goughyates@londonmet.ac.uk))

Ref 1.6 - Social Anthropology

Contact Person: Dr Anna Gough-Yates ([email: a.goughyates@londonmet.ac.uk](mailto:a.goughyates@londonmet.ac.uk))

Ref 1.7 - Social Policy, Social Work and Sociology

Contact Person: Dr Anna Gough-Yates ([email: a.goughyates@londonmet.ac.uk](mailto:a.goughyates@londonmet.ac.uk))

Ref 1.8 - Youth Work and Youth Studies

Contact Person: Dr Anna Gough-Yates ([email: a.goughyates@londonmet.ac.uk](mailto:a.goughyates@londonmet.ac.uk))

Ref 1.9 - Migration Studies

Contact Person: Dr Lyn Thomas ([email: l.thomas@londonmet.ac.uk](mailto:l.thomas@londonmet.ac.uk))

Funded research projects have studied migration and social cohesion, migrant sex workers, migrant workers in the service sector, ethnic categories in the census, second generation Irish and return migration. Supervision can be offered in the following aspects of migration studies: -

- Migration, social cohesion and identities
- Migration, skills and knowledge
- Migration, sexuality and gender
- Migration and media
- Child and youth migration
- Theorising migration, 'race' and ethnicity
- Irish diaspora
- The Irish in Britain (including projects which would use the archive of the Irish in Britain)

Ref 1.10 - European Media, Literature and Culture

Contact Person: Dr Lyn Thomas ([email: l.thomas@londonmet.ac.uk](mailto:l.thomas@londonmet.ac.uk))

Funded research projects include 'Alternative hedonism and the theory and politics of consumption' and 'Online listener engagement with BBC radio'. ISET hosts the Irish in Britain archive. Supervision can be offered in :

- Media and literary representations of migration (including class migration)
- Media and religion
- Transnational/transcultural media consumption
- Media audiences and fan cultures
- Lifestyle and reality TV
- Irish Studies especially the Irish in Britain (including projects which would use the archive of the Irish in Britain)
- Contemporary Irish writing
- Contemporary French women's writing

- Life-writing, gender and class
- Gender and sexuality

Ref 1.11 - European Studies

Contact Person: Dr Lyn Thomas ([email: l.thomas@londonmet.ac.uk](mailto:l.thomas@londonmet.ac.uk))

Funded research projects include: Early language learning in Europe, Citizenship and gender in the EU, Knowledge transfers and productivity in the Services, and Managing mass tourism and urban conservation in historic centres. Supervision can be offered in:

- European tourism and economic development
- Gender and politics
- Political participation and activism
- The European Union's social dimension and policies
- Spanish politics
- Language teaching policy and globalisation
- Language teaching/learning especially primary foreign language teaching

2. Faculty of Architecture and Spatial Design

Details of eligible Projects and Project Areas to follow shortly

Contact Person: Peter Carl ([email: p.carl@londonmet.ac.uk](mailto:p.carl@londonmet.ac.uk))

3. Faculty of Computing

Ref 3.1 - Secure Routing in an Integrated MANET-Internet

Contact Person: Dr Shanyu Tang ([email: s.tang@londonmet.ac.uk](mailto:s.tang@londonmet.ac.uk))

Mobile Ad Hoc Network (MANET) has been a challenging research area for the last decade because of its adaptability in routing, power constraints, security issues etc. A stand-alone MANET has limited applications because the connectivity is limited to itself. MANET users can have better utilization of network resources only when MANET is connected to the Internet. But, global connectivity adds new security threats to the existing active and passive attacks on MANET. Though previous work addressed “Internet connectivity for Mobile Ad Hoc Networks” and ‘Secure routing protocols for Mobile Ad Hoc Networks’, separately, so far there is no research on ‘Secure Routing Protocols for Integrated MANET-Internet’. Several researchers proposed various solutions to provide global connectivity to MANET. But, these proposals have not considered the security aspect of the integrated network. Some research has addressed the security threats and possible solutions for stand-alone ad hoc networks. These solutions are not capable of assessing the global Internet connectivity of MANET and the related threats.

The main objective of this project is to propose a routing protocol which is secure and can provide protection against modification, fabrication, replay, and impersonation attacks on Intra-MANET routing as well as MANET-Internet routing. The protocol should have a low security overhead. Furthermore, the route setup delay and communication overhead must be kept as low as possible. The proposed research work includes analysing the security of the proposal using BAN logic [7], and measuring its performance using OPNET [8] simulation software.

Ref 3.2 - Investigation into the principles of operation of a novel acousto-optic transducer and development of a prototype for application in communication engineering.

Contact Person: Dr Mori Vaezi-Nejad (email: m.vaezinejad@londonmet.ac.uk)

The aim of this project is to develop a novel acousto-optic transducer based on optical fibre and associated solid state electronic components for transmission and detection of optical signals affected by sound waves. As far as sound generation & detection are concerned, there are no electrical component involved. State of art solid state devices are to be used at the transmitting & receiving end for generating & detecting the optical signal. Transmitter and

receiver can be at different locations distance apart or in the vicinity of each other. Optical microphone is one popular application of such a transducer but several other applications in communication and voice activated security systems are envisaged. The most desirable features of the systems to be developed should be:

1. Sensitivity of the system to the origin of sound which would make it highly attractive as a voice activated security system
2. Absence of any noise associated with electrical devices & components for detection and transmission of the sound.
3. All the advantages recognised in optical transmission line compared to electrical cables
4. Low Cost

The research will proceed as follows: Phase one: Devise and implement general experiments to investigate the proposed and similar concepts and establish the principles of operation of such a transducer. Phase two: Design and make a prototype of the transducer system for demonstration purpose. Phase three: Carry out detailed characterisation experiments in order to assess performance and limitation of the transducer. Phase four: Further refine the transducer as optical microphone and outline other commercial applications

Ref 3.3 - Contextual Localization of Mobile Hosts using Semantic Technologies

Contact Person: Dr Vassil Vassilev ([email: v.vassilev@londonmet.ac.uk](mailto:v.vassilev@londonmet.ac.uk))

Contemporary mobile applications free the phone holders from the need to be in a fixed location in order to perform communicative and computational tasks. At the same time, by virtue of their mobility they add one more dimension to the relationship user-device, namely the spatial location. This feature allows the mobile devices to be used in circumstances where the ordinary stationary devices are of little help. The proposed research targets exploring the possibility of utilizing the power of location services available with contemporary mobile devices for the purpose of relative localization and personalized customization of various services which can be of help to the disabled, the elderly or simply people in need of advice from a distance. It will be based on the methods for semantic representation and knowledge processing currently under development within the mainstream research on the Semantic Web, with specific attention to the ontological models of relevant public services (shopping centres, markets, stadiums and concert venues) as well as the typical modern urban infrastructure (transport systems, network services, etc). As a result of the research, it is expected that new methods for contextualization, adaptation and personalization of the mobile applications will be developed with corresponding algorithms, fully prototyped and tested. Crucially, it is anticipated that a number of new projects within the area of the helping services would gain benefit from this research.

Ref 3.8 - The network of the future for heterogeneous devices

Contact Person: Professor Hassan Kazemian ([email: h.kazemian@londonmet.ac.uk](mailto:h.kazemian@londonmet.ac.uk))

The future generation networks will be characterized by a multitude of fixed and wireless, circuit-switched and packet-based access technologies, a backbone network based on IP, and most importantly an open service architecture, which allows a multitude of service providers to compete with a broad spectrum of value added services. The limited functionality of QoS, security and accountability, the lack of adaptability to deal with network mobility and portability, the limited resources to be shared between different composite networks, and the difficulties to integrate and profit from new technologies are the main reasons for proposing a breakthrough design for the network of the future. This research idea will endeavor to contribute towards this vision by aiming to provide a converged and efficient service capability across an advanced mobile heterogeneous network infrastructure.

This research will seek to provide a seamless service portability and efficiency across composite networks through the service-network interface, with ubiquitous access from any network, from any technological or administrative domain, from any place and with diverse access devices. Furthermore, the converged infrastructure will provide a highly efficient, energy saving

conscious, environmentally friendly, performance enhancement and economically sound transport and access networks. Finally, an appropriate business model will be presented to support the implementation of the proposed novel network architecture based on a new approach to network operation and management models.

Ref 3.9 - Use of artificial intelligence to predict membrane protein

Contact Person: Professor Hassan Kazemian ([email: h.kazemian@londonmet.ac.uk](mailto:h.kazemian@londonmet.ac.uk))

Most membrane protein coats the surface of the cell. Many of these proteins span the distance from the outside to the inside of the cell. The part of the protein which makes contact with the cell interior is called the transmembrane protein. Long before the advent of genomics it was realised that the parts of proteins which have to contact membranes tend to be made of fat-loving amino acids, since the membranes of cells are largely made of fat. Transmembrane proteins may account for about 30% of the proteome. Furthermore, membrane proteins constitute approximately 75% of possible targets for novel drugs. However, membrane proteins are one of the most understudied groups of proteins in biochemical research because of the technical difficulties of obtaining structural information about transmembrane regions. The new PhD student will introduce a new artificial intelligent approach to substantially increase the accuracy of transmembrane protein prediction and analysis. This capability will provide an integrated software suit which will robustly classify transmembrane protein into alpha helix, beta barrels, signal peptide, etc. Market research conducted shows there is a demand for this knowledge. The system will incorporate all transmembrane proteins and will have a database for human genome and all bacteria.

Ref 3.6 - User-Oriented Workflow Composer And The Development Of A Htc-R Toolkit In Cloud Computing Environment

Contact Person: Dr Yong Xue ([email: y.xue@londonmet.ac.uk](mailto:y.xue@londonmet.ac.uk))

The R language was developed to provide a powerful and extensible environment for statistical and graphical techniques. R is an open-source programming language. However, it was not a development goal to provide software for parallel or high performance computing (HP C) with R. Two primary drivers for the increased focus on high performance computing with R can be identified: larger data sets, and increased computational requirements stemming from more sophisticated methodologies. Today, most organizations have many more compute cycles, but they are locked up in numerous PCs and workstations. Condor unlocks those cycles, so it is partly a “cycle scavenging” system that finds unused cycles in an organization and puts them to use. This project will build up a high throughput (HTC-R) toolkit for Statistics Analysis in Grid Computing Environment. The objectives are to build a workflow composer with graphic user interface (GUI) which can be accessed from any web browser; to develop a self-learning real-time workload and task management algorithm on Grid computing environment using artificial neural network, and to develop a strategy for the validation of workflow in R dynamically composed by users.

Ref 3.7 - Fractal Based Microwave Devices for Wireless Communication Systems

Contact Person: Dr Bal Virdee (b.virdee@londonmet.ac.uk)

Aim: The aim of the project is basic research on fractal electromagnetics in order to explore the performance limits of highly innovative fractal shaped miniature devices for the future wireless telecommunication systems. This project will: i) explore if fractal devices can reach the fundamental size limit, not reached yet by Euclidean shaped devices, that establishes the smallest size for a given operating bandwidth; ii) assess the viability of such devices in the framework of present technology constraints. The result should be the basis of a new generation of miniature microwave devices such as antennas, filters and resonators. The development of miniature wireless communication sub-systems would remove one of the bottlenecks that prevent the integration of multimedia, communication and remote sensing services in small user terminals.

Objectives: 1. Increase the knowledge of Fractals in order to acquire design guidelines for fractal-shaped microwave devices; 2. Explore if fractal-shaped microwave devices can reach the fundamental miniaturization limit, which has never been reached by Euclidean-shaped devices; 3. Develop a software tool for computer simulation of fractal-shaped microwave devices performance, including time domain visualization of the interaction between geometry and electromagnetic fields, in order to allow a physical interpretation of radiation and resonance of the proposed structures. This tool would allow also the later design and optimisation of such devices; 4. Explore the impact of the technological limitations on the performance of fractalshaped microwave devices.

Ref 3.8 - Flexible Frequency Discrimination Subsystem for Reconfigurable Communication Systems

Contact Person: Dr Bal Virdee (b.virdee@londonmet.ac.uk)

As the number of wireless communications devices continues to increase logarithmically, a natural by-product is a crowded spectrum. Hence intention of software-defined radio (SDR) is to provide a flexible radio platform capable of operating over a continuously evolving set of communications standards and modes.

In contrast to the majority of currently available mobile telephones, which are predefined to operate on a fixed number of standards, SDR must be capable of adapting to both current and future mobile telecommunications standards. The SDR concept imposes demanding requirements on the transceiver front end. Current spectrum allocations and recent regulatory reforms suggest that transceiver operation from 600MHz to 6 GHz will be required to cover existing and emerging telecommunication services. The front end must not only be capable of operating across this entire band but must do so whilst attaining performance comparable with fixed frequency solutions.

The aim of this research is to investigate novel prototype resonant structures based on planar microstrip technology that is/are suitable for developing reconfigurable filters that can be operated at a rate of in excess of 0.5GHz/Ts. Based on these results the intention is then to use this reconfigurable microstrip structures to develop filters that reduce spurious spectral content in the transmitter and limit out-of-band interference in the receiver of narrowband transceivers.

Ref 3.9 - Data Mining Models for Flexible Modeling of the Location, Scale and Shape Parameters of a Response Distribution

Contact Person: Dr Mikis Stasinopoulos ([email: d.stasinopoulos@londonmet.ac.uk](mailto:d.stasinopoulos@londonmet.ac.uk))

The objective of this research project is to incorporate data mining models within generalized additive models for location, scale and shape (GAMLSS).

The data mining models will include neural network, support vector machine and decision tree and boosting models, see Hastie *et al.* 2009. Data mining models are currently very limited in the distributions they allow for the response variable and model only the mean.

GAMLSS provides a very general and flexible model for a response variable. The distribution of the response variable in GAMLSS is selected by the user from a very wide range of available distributions including highly skewed and kurtotic continuous and discrete distributions.

GAMLSS includes distributions with up to four parameters, denoted by μ , σ , ν and τ , which usually represent the location (e.g. mean), scale (e.g. standard deviation), and skewness and kurtosis shape parameters respectively. All the parameters of the response variable distribution can currently be modelled within GAMLSS using parametric and/or nonparametric smooth functions of explanatory variables. This project will extend this flexibility to incorporate within GAMLSS data mining models for all the parameters, thus allowing more flexible modeling of the location, scale and shape parameters.

The student should have a good honours degree or MSc in Mathematics or Statistics or a related area.

Hastie T., Tibshirani R. and Friedman J. (2009) *Elements of statistical learning: Data Mining, Inference, and Prediction*. Springer, New York.

Rigby, R. A. and Stasinopoulos, D. M. (2005). Generalized additive models for location, scale and shape, (with discussion). *Appl. Statist.*, 54: 507–554.

Ref 3.10 - Comparison, Evaluation and Development of Stochastic Volatility Models

Contact Person: Dr Mikis Stasinopoulos ([email: d.stasinopoulos@londonmet.ac.uk](mailto:d.stasinopoulos@londonmet.ac.uk))

The volatility of the markets plays an important role in evaluating derivatives. The volatility of a specific stock is related to the variance of the particular stochastic process assumed for modelling the relevant stock. The most common stochastic process used is a Wiener process which assumes that differences in stock values follow a normal distribution. This assumption in practice has been found to be unrealistic with data series often indicating skewness (not incorporated in the normal distribution assumption) and kurtosis (usually larger than the one implied by the normal distribution assumption. i.e. leptokurtosis).

The generalized additive models for location scale and shape (GAMLSS), Rigby and Stasinopoulos (2005), are regression type of models in which the distribution of the response variable can be both skew and kurtotic therefore suitable for modelling stock returns. The most common statistical model for modelling stochastic volatility is the Generalised Autoregressive Conditional Heteroskedastic (GARCH) model, see Bollerslev et al. (1994), and models related to it such as the APARCH model introduced by Ding et al. (1993). An alternative model for volatility is the multi-fractals models (MF) proposed by Mandelbrot (1997).

This project will compare and evaluate the GARCH, APARCH, MF and GAMLSS models and develop them further.

The student should have a good honours degree or M.Sc. in Mathematics or Statistics or a related area.

Bollerslev T., Engle R.F. and Nelson D.B., (1994); *ARCH Model, Handbook of Econometrics*
Mandelbrot B. B. (2001) Scaling in financial prices: I. Tails and dependence, *Quantitative Finance*, Volume 1, Issue 1 January 2001 , pages 113.†

Rigby, R. A. and Stasinopoulos, D. M. (2005). Generalized additive models for location, scale and shape, (with discussion). *Appl. Statist.*, 54: 507–554.

Ref 3.11 - Identifying humans and their behaviour using intelligent image processing

Contact Person: Dr Karim Ouazzane ([email: k.ouazzane@londonmet.ac.uk](mailto:k.ouazzane@londonmet.ac.uk))

The main aim of this research theme is to investigate and identify humans and their behaviour in video-based surveillance systems. Common use of cameras is supervision/surveillance of public or restricted areas, such systems typically consist of a number of cameras connected to a control room. Surveillance staff trained to use such systems closely monitor these systems. However, human error is a factor that cannot be ignored and is virtually impossible to be avoided.

Image processing and innovation can dramatically increase the application of video-based surveillance systems. The ability to identify humans and their behaviour using image processing and neural networks can revolutionise the way the crimes could be prevented in future. Also, the ability to recognise humans and their activities by vision (i.e. using computer vision) is a key for a machine to interact intelligently and effortlessly with human-inhabited environment. Human behaviour recognition can be feasible by matching action sequences taking place with a library of labelled sequences, which represent the prototypical sequences. However, learning and matching methods have to be able to deal with small spatial and time scale variation within similar classes of movements' patterns.

Despite large amount of pertinent work that has been carried out, many issues are still open with regards to image segmentation, use of models, tracking versus initialization, tracking multiple persons and computational cost. Also, work on additional features such as sound (e.g. to recognise cries/screaming for help) will further improve the efficiency of existing systems. Hence this research presents a formidable challenge to make advances in an area of a concern.

Ref 3.12 - A creative in-door positioning framework and its use in an intelligent guide architecture

Contact Person: Dr Yanguo Jing ([email: y.jing@londonmet.ac.uk](mailto:y.jing@londonmet.ac.uk))

This PhD project aims to propose, implement and evaluate a creative in-door positioning mobile framework. It will improve user's experience in in-door places such as museums, galleries, underground stations where the mobile phone obtains the location information and provide location based information, educational and personalized assistance.

A key contribution of this work is the design of a creative in-door positioning framework. It is well known that GPS location based services has never been intended to be used in indoor environments, and the relatively weak satellite signals do not readily lend themselves to use in such environments. Other technologies such as WIFI hotspots, infrared and Skyhook all have their limitations. This project is to investigate and propose a new framework that uses a combination of these technologies in different contexts to achieve an improved positioning performance.

Another contribution will be a software architecture that processes the location context, user's interaction history, information about user's personal preferences and goals, and provides proactive assistances for users.

Ref 3.13 - Project Computational Fluid Flow (Displacement Ventilation System)

Contact Person: Dr Pargat Singh Calay ([email: p.calay@londonmet.ac.uk](mailto:p.calay@londonmet.ac.uk))

The idea behind displacement ventilation system is to utilise buoyancy to remove warm contaminated air from the occupational space by supplying fresh air at low velocity at floor level and extracting contaminated air at the ceiling level. The flow field is dominated by buoyancy and thermal stratification. The equations governing this system are the time-dependent Navier-Stokes equations of incompressible fluid dynamics. Buoyancy effects are included by adding a temperature dependent source term to the flow equations (the so-called Boussinesq approximation).

The focus of work will be to develop a numerical method based on the finite element method/finite volume method for space discretisation and the finite difference method for the time discretisation.

This numerical method (appropriate for the task in this project), given the computer power available, will allow the capability of producing accurate results for a wide range of parameters (input conditions). The application of this work is in the design of any process where Heat is transferred such as Air Conditioning.

Ref 3.14 - e-Business Process Middleware Broker & Request: Facilitating the move from business legacy systems to e-business systems

Contact Person: Dr Farhi Marir (email : f.marir@londonmet.ac.uk)

In the early '90s, persuading programs on different machines to talk to each other was a nightmare, especially if different hardware, operating systems, and programming languages were involved: programmers either used sockets or wrote an entire protocol stack themselves or their programs didn't talk at all. As a result, the Common Object Request Broker Architecture (CORBA) a standard middleware was developed to allow the interoperability of different application especially legacy systems by providing a standard interface definition language (IDL) and a standard Internet Inter-ORB Protocol communication protocol (IIOP). Currently business organisations are facing similar problems of interoperability between their business systems and also the transformation of the legacy business systems into e-business. CORBA can not solve this problem as the underlying components of business systems business processes which are characterised by an increasing pace of radical, discontinuous and unforeseen change. Furthermore, business processes have human dimension of organisational knowledge creation. This PhD research work will focus on the development of a new e-business process Middleware that integrate Web 2.0 features of people interaction and Service Oriented Architecture features of connecting multiple applications and databases. Furthermore,

it will investigate the possibility of using the new framework for e-business workflow developed at FoC as standard protocol for communication between business processes.

Ref 3.15 - Machine Learning and Bipolar Disorder

Contact Person: Dr Farhi Marir (email : f.marir@londonmet.ac.uk)

Bipolar disorder is a form of depression that affects a lot of people around the world. More often than not, it is treated as a form of depression and anti – depressants are prescribed for the patients; which in turn are no long term solution to the problem. A lot of research have been going on regarding its cure, but very few of them have looked at the genetic components of a patient that could be responsible for the illness. There have been substantial work on the use of Machine Learning that aims to diagnose bipolar disorder in a patient but little work on investigating the genetic component of this disease in order to find a cure. The UK has the world's biggest gene bank that can be used to analyze the genetic component from the genome database. The purpose of this research is to merge machine learning with the UK genome database and come up with a model which could be used to support research into a cure for Bipolar Disorder.

Ref 3.16 - Modal Learning Neural Networks for Virtual Learning

Contact Person: Professor Dominic Palmer-Brown ([email: d.palmer-brown@londonmet.ac.uk](mailto:d.palmer-brown@londonmet.ac.uk))

Several neural network paradigms have been shown to provide effective machine learning suitable for a wide range of real-world pattern classification and data mining challenges, for example, in bioinformatics, user and customer modelling, web search, environmental data analysis and satellite imaging. The modal learning approach to neural computing seeks to dynamically combine different methods of adaptation in a single neural network structure which is able to switch between learning modes in real time, either periodically or according to changes in measured performance. This PhD research will explore modal neural computing in the context of a virtual learning environment where the neural network learns key patterns of student interaction and knowledge, thus enabling the environment to provide personalised feedback in support of the student's learning.

***4. Faculty of Humanities, Arts, Languages and Education; including:
Institute for Policy Studies in Education
Learning and Technology Research Institute***

The faculty of humanities, Arts, languages and Education offers a supportive and inspiring environment for postgraduate research degree students. Research in the department includes a diverse range of subject areas and methodological approaches, and includes a growing emphasis on practice-based and applied research. Our multifaceted character enables and encourages synergies and interdisciplinary projects in both established and emerging fields.

We are broadly open to proposals for which we would be able to provide appropriate supervisory teams in subject areas reflecting the range of disciplines in our faculty. Suggested project areas include:

Ref 4.1 - Creative Arts: Practice-based (Performing Arts/Dance and Drama, Film and Media, Creative Writing)

Contact Person: Dr Anne Hogan ([email: a.hogan@londonmet.ac.uk](mailto:a.hogan@londonmet.ac.uk))

Modern performance practices and drama; 20th and 21st century classical and contemporary dance; Shakespeare and dance; Dance for the screen; Somatic practices in performance training methodologies; Somatic practices and choreographic approaches; Media and internet theory and practice; Creative Writing

Ref 4.2 - Humanities and Arts: (Performing Arts/Dance and Drama, Film and Media, Creative Writing, Journalism, Literature, History, Philosophy, Anglo and American Studies).

Contact Person: Dr Anne Hogan ([email: a.hogan@londonmet.ac.uk](mailto:a.hogan@londonmet.ac.uk))

Modern performance practices and drama; Performance analysis; 20th and 21st century classical and contemporary dance; Shakespeare and dance; Dance for the screen; Somatic practices in performance training methodologies; Somatic practices and choreographic approaches; Classical Hollywood (especially post-war Hollywood film); Post-war American culture, including issues of gender, race, class, ethnicity and sexuality; Media and internet theory; Television, film and philosophy; Creative Writing; Journalism; Creative and Cultural Industries; Critical and cultural theory; Biosemiotics, Postcolonial history and politics; Anglo-American studies

Ref 4.7 - Interpreting, Translation, TESOL, Sociolinguistics and Applied Linguistics

Contact Person: Dr Anne Hogan ([email: a.hogan@londonmet.ac.uk](mailto:a.hogan@londonmet.ac.uk))

Primary English language teaching (PELT); English for young learners (EYL); Language-in-education policy and practice; Globalism and ELT; Managing change in ELT; Inter/transcultural communication practices in educational settings; Language acquisition/second language learning; Language policy and planning; Social linguistics and discourse; Translation and Interpreting theory; Translation and creativity; Drama and theatre translation; Text-linguistic/pragmatic approaches to translation; postcolonial issues in translation; Gendered approaches to translation; Second language teaching and learning; Task-based language teaching; Second language assessment; Literacy and literacies/practice and pedagogies.

Ref 4.4 - Education (see also project areas below for the Institute for Policy Studies in Education and the Learning and Teaching Research Institute)

Contact Person: Dr Anne Hogan ([email: a.hogan@londonmet.ac.uk](mailto:a.hogan@londonmet.ac.uk))

Schools: Language and literacy in the curriculum; multilingualism; special and supplementary education; dyslexia. Special Educational Needs: children's rights; bilingual education; inclusive education; mentoring and coaching in education; equality and diversity; behaviour; ICT. Early years: food and eating in the early years; child psychology; health promotion in the early years; child development; play and learning; gender and play; early language acquisition; management in early years settings. Education studies: academic literacies; social constructivism; educational research; e-learning; citizenship; informal learning; childhood. Education policy: social justice; equality issues related to workforce (early years, school, FE or HE); young people, disadvantage and education /careers. Learning Technologies: new technologies; mobile learning, context sensitive learning design; augmented reality; digital gaming in education; informal learning; learning object design, learning interactions and dialogue design; collaborative and personalised design.

Ref 4.9 - Mobile phones as mediating tools for learning – Learning and Teaching Research Institute

Contact Person: Professor John Cook ([email: John.Cook@londonmet.ac.uk](mailto:John.Cook@londonmet.ac.uk))

The nature of learning is being enhanced by mobile devices and the networks and media to which they connect people. Consequently, there is a need to re-examine approaches to the design of and research into learning experiences that incorporate mobile/cell phones in the learning context. The proposed work will draw on two key initiatives. Firstly, Design Research is an approach that tends to have interventionist characteristics, is process oriented and contributes to theory building. Secondly, an educational problem that mobile learning tries to solve is the design of Augmented Contexts for Development (Cook, 2010); these place context as a core construct that enables collaborative, location-based, mobile device mediated problem solving where learners generate their own context for development. The proposed project will revisit Design Research by making use of such questions as: what does the shift in the use of mobile devices for informal, formal and work-based learning mean for the collection and analysis of data and what methods might we employ in a systematic, iterative and interventionist Design Research effort?

Reference: Cook, J. (2010). Mobile Phones as Mediating Tools Within Augmented Contexts for Development. *International Journal of Mobile and Blended Learning*, 2(3), 1-12.

Ref 4.6 - The Institute for Policy Studies in Education (IPSE)

Contact Person: Dr. Carole Leathwood ([email: c.leathwood@londonmet.ac.uk](mailto:c.leathwood@londonmet.ac.uk))

Applications are welcome for research into social justice and equality issues in education, in particular: Equality issues related to the education workforce (early years, school, FE or HE); Young people, disadvantage and education/careers.

Ref 4.7 - Centre for Caribbean and Latin American Research and Consultancy (CLARC)

Contact person: Dr. Stephen Wilkinson ([email: s.wilkinson@londonmet.ac.uk](mailto:s.wilkinson@londonmet.ac.uk))

We would welcome applicants from students wishing to complete PhDs in the following areas:

Cuba: US-Cuba relations, Economy, Health care, any field of social or environmental policy. Literature, Cultural policy. History.

Caribbean: Migration, Hispanic Caribbean, Literature.

Latin America: Contemporary political/economic trends in the region or in any of the countries. International relations - in particular, Venezuela under Hugo Chávez and the ALBA countries. Literature.

5. Faculty of Law, Governance and International Relations

Ref 5.1 - Family Law; Child Custody/Abduction; Human Rights; and Intellectual Property

Contact Person: Dr Wendy Stokes ([email: w.stokes@londonmet.ac.uk](mailto:w.stokes@londonmet.ac.uk))

Ref 5.2 - Religion and Politics; EU Politics; Media and Politics; US Politics; and Political Theory

Contact Person: Dr Wendy Stokes ([email: w.stokes@londonmet.ac.uk](mailto:w.stokes@londonmet.ac.uk))

Ref 5.3 - Common Goods and Political Reasoning

Contact Person: Dr Kelvin Knight ([email: k.knight@londonmet.ac.uk](mailto:k.knight@londonmet.ac.uk))

Aristotelianism specifies *political* reasoning by reference to common goods. Traditionally, Aristotelians identified both common goods and political reasoning with the state. Recently, Alasdair MacIntyre has argued that large, bureaucratic, capitalist, nation states are structurally incapable of acting for the common good, and that political and ethical reasoning should therefore identify alternative institutional resources. Critical appraisal of that argument in occasional colloquia led by Professor MacIntyre is a central task of CASEP, the Centre for Contemporary Aristotelian Studies in Ethics and Politics. We would welcome applications to undertake doctoral research into practical reasoning or common goods from a perspective informed by the work of Aristotle, and especially from a perspective informed by contemporary Aristotelianism. Such research is bound to have a philosophical aspect, but research with an empirical orientation (e.g. into past or present states, into past or present local communities, or into particular political, ethical, legal, economic or ecological issues) is also welcome.

Ref 5.4— Other General and Unspecified Projects in Law Governance and International Relations (not listed above)

Contact Person: Dr Wendy Stokes ([email: w.stokes@londonmet.ac.uk](mailto:w.stokes@londonmet.ac.uk))

6. Faculty of Life Sciences

Eligible Projects and Project Areas:

Ref 6.1 - Cognitive and Health Psychology

Contact Person: Paul Angelo ([email: p.angelo@londonmet.ac.uk](mailto:p.angelo@londonmet.ac.uk))

Ref 6.2 - Study on ion channels involved in breast/prostate cancer

Contact Person: Paul Angelo ([email: p.angelo@londonmet.ac.uk](mailto:p.angelo@londonmet.ac.uk))

Ref 6.3 - The genetics of childhood obesity in ethnic minorities

Contact Person: Paul Angelo ([email: p.angelo@londonmet.ac.uk](mailto:p.angelo@londonmet.ac.uk))

Ref 6.4 - The role of erythrocyte plasma membrane derived vesicles in drug delivery systems

Contact Person: Paul Angelo ([email: p.angelo@londonmet.ac.uk](mailto:p.angelo@londonmet.ac.uk))

Ref 6.5 - Physiological measurement of athletes that enhance performance and prevent injury

Contact Person: Paul Angelo ([email: p.angelo@londonmet.ac.uk](mailto:p.angelo@londonmet.ac.uk))

7. London Metropolitan Business School; including: Cities Institute

Ref 7.1 - Sustainable pricing models for the digital economy

Contact Person: Contact: Dr Thierry Rayna ([email: t.rayna@londonmet.ac.uk](mailto:t.rayna@londonmet.ac.uk))

Since the early days of the internet, the dominant (and seemingly impassable) business model has been the ‘free-for-ads’ model. While many other models have been envisaged (e.g. dynamic pricing, pay-per-use, micropayment) and tried out, they have not achieved to replace the dominant model. Now that the profitability of this model has begun to erode, it is crucial to build new and sustainable pricing models to replace it.

The past and current inability of the private sector to provide successful models, in spite of numerous attempts, calls for a thorough investigation of past failures and of the prevalence of the ‘free-for-ads’ model, as well as adopting a forward looking perspective to establish potential solutions to the current deadlock.

One of the recent arguments (Quah, 2003; Rayna, 2008) put forward to explain this unique aspect of the digital economy is that the economic nature of digital products is unlike any other products and, therefore, that the success of a particular business model is related to its degree of integration of the actual nature of digital products (Rayna and Striukova, 2008). Proposals, industry specific or cross-industry, related to this topic are invited. Due to the complexity of the question at hand, an eclectic framework is most likely needed. As such, quantitative and/or qualitative methods, experimental and/or computational economics are desirable approaches for this project. Candidates should have an experience of either of these and an interest/experience in another of these methodologies. The successful applicant will work closely with the team of the research project “Direct Assessment of a Method for Digital Music Distribution Supporting Revenue Generation and Sharing” (£276,662; funded by the RCUK Digital Economy programme)

Quah, D. (2003). Digital goods and the new economy. In Jones, D., editor, *New Economy Handbook*, chapter 13, pages 289–321. Academic Press Elsevier Science.

Rayna, T. (2008). Understanding the challenges of the digital economy: The nature of digital goods. *Communications & Strategies*, 71:13–26.

Rayna, T. and Striukova, L. (2008). Privacy or piracy, why choose? Two solutions to the issue of digital rights management and protection of personal information. *International Journal of Intellectual Property Management*, 2(3) :240–25 2.

Ref 7.2 - Centre for Europe, Middle East and Africa: Banking, Finance and Economics

Contact Person: Professor Roman Matousek ([email: r.matousek@londonmet.ac.uk](mailto:r.matousek@londonmet.ac.uk))

The current global financial crisis has been an unprecedented event. Since August 2007 we have witnessed turmoil in credit markets in USA that has rapidly overspread across the world. The severity of this crisis is exceptional and being paralleled with financial crises in USA and Japan in the late 1 980s and 1 990s respectively. It is evident that the length and depth of the economic slowdown is closely linked with the ability of individual banks to reconcile with the

deterioration of their balance sheets and liquidity squeeze. Thus, the degree of economic downturn seems to reflect the weakness of the banking sector as a whole. Therefore, it is important to address the following very challenging theoretical and empirical research problems: First, to advance the current theoretical research on bank's efficiency by incorporating into the theoretical models the issue of 'undesirable outputs', i.e. non-performing loans through parametric and non-parametric methods. Secondly, to determine whether the monetary transmission process (Bank Lending Channel - BLC) works differently under financial turbulences. Thirdly, to empirically test the main factors having an impact on BLC, i.e. whether BLC is influenced only by bank's size, capitalisation and liquidity or whether banks efficiency matters as well. This research would fundamentally change current perceptions on the theoretical research focusing on banks efficiency and how BLC works in the case of financial turbulences. These are very important research questions since no previous empirical studies have focused on a period of such a severe and protracted global economic downturn.

Ref 7.3 - The "credit channel" and the macro economy

Contact Person: Dr Chris Tsoukis (email : c.tsoukis@londonmet.ac.uk)

The literature on the "credit channel" is more powerful than traditional analyses of the monetary transmission mechanism, as it looks in more detail at how bank and credit markets (including borrowers' balance sheets and banks' provision of credit) respond to policy and other exogenous developments. The credit channel's implications are very important for understanding the recent financial crises and for future policy decisions and stability of the economy. Firms and households with low balance sheets have found it hard to borrow from the banks and face very high interest rates. A reduction of the amount of lending to the firms and households directly affects investment and employment by firms and also leads to reduced consumption by households. This is brought not only by the reduced cash flow but also by the future economic uncertainties that leads to an unstable economy and thus low output production and low economic growth as we have seen in the recent financial crisis. A lot more however remains to be done, particularly in the UK where related research is still at its infancy. Specifically, one could look at the interaction between money markets/credit and the housing market, the effects on monetary policy-making and interest rate setting, and the general effects of reduced lending on unemployment and economic growth. These are all areas of profound practical importance, and the proposed doctoral research will look at these issues using state-of-the-art theory and statistical techniques, and the latest available UK data.

Ref 7.4 - Individual decision-making and social interaction at the movies: The Philadelphia Story

Contact Person: Professor John Sedgwick (email: j.sedgwick@londonmet.ac.uk)

When faced with choices between new products and services, the properties of which are uncertain, how do individuals behave? Economists commonly distinguish between social and private information available to the consumer - social learning takes place through social networks, while private learning is the consequence of past experience. In factoring both into the decision-making process it is possible to model consumer behaviour - in this instance film consumer behaviour.

To do this I propose developing an agent-based modelling approach, which allows the researcher to investigate the microscopic behaviour of individual film consumers who watched particular films at particular cinemas at particular moments in time in order to a) grow the macroscopic environment manifest in the long tail distribution of revenue, b) chart the pattern of diffusion from box-office rich to box-office poor cinemas, and c) forecast the closing box-office of films that opened in the first-run cinemas from the opening Saturday night of the release. The dataset that forms the basis of this proposal is drawn from the city of Philadelphia for the years 1935-36. Housed in the Warner Bros. Archive at the University of Southern California, I have recently uncovered the weekly billing sheets of 91 cinemas located in the city belonging to the Stanley Warner chain. The sheets provide micro data of an unparalleled

nature about audience choices, consisting of daily box-office returns generated by the films screened at the 91 cinemas. This body of data has never previously been accessed. Once transcribed onto a database and analysed, it will make possible a much fuller understanding of audiences and the choices they made. Furthermore, the work will be directly applicable to contemporary consumer behaviour concerning experience goods. I am looking for a graduate student that has an excellent quantitative historical background, who is excited about executing detailed fieldwork in the city of Philadelphia; building a dataset from archive materials using relational database software; and finally modelling the data to investigate consumer behaviour.

Ref 7.5 - Impact of the current financial crisis on international tourism numbers and revenues in the UK

Contact Person: Professor John Coshall ([email: j.coshall@londonmet.ac.uk](mailto:j.coshall@londonmet.ac.uk)) or Professor Stephen Page ([email: s.page@londonmet.ac.uk](mailto:s.page@londonmet.ac.uk))

Tourism is one of the most thriving industrial sectors in the world, with worldwide receipts growing by 12% over the last decade. It is argued to be the world's third largest industry after oil and vehicle production. International tourism receipts form a major component of the current accounts of many countries' balance of payments. Over recent years, the UK has occupied 5th and 6th places in the world rankings as a destination for international tourism. In 2006, annual turnover in UK revenues from inbound international tourism amounted to £76 billion. As such, tourism contributes 4% to the UK's GDP with 7% of the working population employed in the tourism and allied sectors including heritage, hospitality and culture. The purpose of this research scholarship is to quantify the impact of the current financial crisis on the UK tourism industry in particular and on the UK economy in general. Factors that determine international tourism flows are well-researched, but there is a suggestion that their importance varies according to trip purpose – holidays, business, visiting friends and relatives etc. It is likely, therefore, that the financial crisis has had differential impacts on these sectors. The research will involve quantitative modelling of tourism numbers and revenues, disaggregated by trip purpose and other potentially relevant market factors. Consequently, the successful candidate will have studied multivariate regression and ARIMA time series analysis and will be familiar with the SPSS software package. Awareness of cointegration methods and econometric software such as EViews, Microfit or RATS would be an advantage.

Ref 7.6 - Equality and diversity at work: Opportunities and challenges in moving towards a 'unified' equalities agenda?

Contact Person: Fiona Colgan ([email: f.colgan@londonmet.ac.uk](mailto:f.colgan@londonmet.ac.uk))

The introduction of the European Employment Equality Directive (2000), has required European Union (EU) member states to develop their legislative frameworks to address discrimination on grounds of gender, race and ethnicity, sexual orientation, disability, religion and belief and age. As a result of this expansion of EU law, a number of European countries have reformed their equality bodies and law. It has been argued that this is encouraging a shift from a single strand to a more unified 'equalities' agenda. For example, in Britain the Equality and Human Rights Commission was established in 2007 and the Equality Act (2010) streamlines existing equalities legislation to tackle 'multiple' or cross-strand discrimination and extends the public sector duty to include the 'new' equality strands. However, little research has been done to identify how this changing framework is impacting on employment policy and practice within organizations and the implications for management, trade unions and employees. The research which has been done thus far tends to focus on one equality strand rather than adopting a multiple or cross-strand approach. PhD applications are welcomed which will develop research in this area within a British and/or EU context. Possible research themes could include:

What steps are organisations taking to develop policy/practice with respect to the 'new' equality strands?

What are the opportunities in developing a 'unified' equalities agenda?

How are organisations addressing multiple equality agendas?

How are organisations tackling any competition or clashes between strands?

What is emerging good equality/diversity practice at work?

Ref 7.7 - Business and Society: Strategy/Corporate Responsibility/Sustainable Development/Corporate Governance/ Ethics

Contact Person: Dr Lez Rayman-Bacchus ([email: l.rayman-bacchus@londonmet.ac.uk](mailto:l.rayman-bacchus@londonmet.ac.uk))

The title of the topic area (Business and Society) is an attempt to reflect the many elements that are closely interconnected. Many research opportunities exist within and across these areas.

One area of interest is the need to better understand the tensions between corporate purpose and policy purpose in pursuit of social, economic and environmental development.

Corporations are expected to play an increasingly significant role in achieving social, economic and environmental development, both directly and in partnership with stakeholders including government. There is both political and intellectual interest in this, and it is an evolving picture.

Development goals have moved on from seeking simply economic outcomes to including social and environmental. One political interest is the Millennium Development Goals, as set out by the UN, with a deadline of 2015. The goal is to eliminate poverty. Is this realistic or idealistic?

Development priorities and challenges differ across mature and developing economies. We are particularly interested in those facing the UK and China.

In trying to better understand the role of the corporation in society we need to understand the extent to which companies should include societal considerations in their strategy, or whether this is a distraction from their real purpose; the notion of 'spheres of influence' as a model representing the ways that corporations contribute to development; the need to examine the suggestion that Corporate Responsibility represents an integral part of core business, with Sustainable Development the desired outcome; and the challenges of measuring and reporting corporate CR/SD activity and its impact.

Ref 7.8 - Services Marketing

Contact Person: Professor Nana Owusu-Frimpong ([email: n.owusu-frimpong@londonmet.ac.uk](mailto:n.owusu-frimpong@londonmet.ac.uk))

With a particular focus on one or more of the following:

- Marketing services to ethnic consumers in culturally diverse markets
- Internationalisation strategies
- Cross-cultural consumer values
- African business, with a particular focus on one or more of the following:
 - Economics, capital markets and banking
 - Legal, regulatory and public policy aspects of business
 - Business information and communications technology
 - Marketing, logistics and supply chain management
 - Tourism and sustainable development
 - Education strategies

Ref 7.9 - Marketing and Communications

Contact Person: Professor Roger Bennett ([email: r.bennett@londonmet.ac.uk](mailto:r.bennett@londonmet.ac.uk))

The marketing and communications subject group will be pleased to receive applications for PhD supervision in the following areas:

- Fashion marketing, e.g., the role of emotional brand values in fashion buying behaviour, consumer attitudes towards ethical sourcing of fashion projects, fashion marketing in digital environments
- Media and communications, e.g., branding and new media, fresh communications channels, digital advertising and promotion, consumer behaviour and responses to contemporary communication methods

- Nonprofit marketing, e.g., new developments in fundraising, relationship marketing in the voluntary sector, advertising imagery for use by nonprofit organisations, donor behaviour
- Social marketing, e.g., campaign development and execution; alcohol, tobacco and obesity issues; international comparisons
- Marketing the arts, e.g., reputation and identity management for arts organisations, new distribution channels for artworks, strategic marketing by arts organisations, audience behaviour and development

The above mentioned examples are not meant to be exhaustive however and any topic falling within the subject areas listed will be considered.

Ref 7.10 - Creative Clusters and Local Economic Development

Contact Person: Sue Bagwell ([email: s.bagwell@londonmet.ac.uk](mailto:s.bagwell@londonmet.ac.uk))

Creative clusters manifested in cultural quarters, production & consumption-based concentrations of creative industries firms, and 'creative class' milieus - have become popular concepts and local economic policy panacea in advanced and developing cities alike. Investigation of the creative cluster phenomenon is likely to draw on economic geography, urban policy and cultural theory in a spatial context. This will require study at various scales - neighbourhood to city-regional, and across creative and other cultural and industrial sectors. The research will draw on longitudinal datasets on creative industries in London and other cities, and ongoing evaluations of cluster policy interventions at sub-regional and local levels. A good first degree in a social science subject is required and preferably a further degree. Skills in social survey methods - quantitative and qualitative - and spatial analysis are also desired.

Ref 7.11 - Ethnic Quarters and Enterprises

Contact Person: Dr Steve Shaw ([email: s.shaw@londonmet.ac.uk](mailto:s.shaw@londonmet.ac.uk))

Ethnic quarters and 'ethnoscapes' have been a resurgent phenomenon in inner cities, which have been used as both branding and as part of regeneration strategies. Concentrations of ethnic minority communities and local enterprises provide particular representations of urban continuity and change, as new and old migrants settle and resettle and legacies accumulate through built form, cityscape and local production and consumption activity - including street markets and festivals. Research is sought into ethnic quarters and co- and inter-ethnic relationships in terms of trade and enterprise, identity and culture - and related policy interventions in UK cities, in Europe and in Canada.

A good first degree in a social science or related subject is required and preferably a further degree. Skills in social survey methods - quantitative and qualitative - and urban design analysis are also desired.

Ref 7.12 - Urban Coastal Cities, Growth and Climate Change

Contact Person: Dr Jo Foord ([email: j.foord@londonmet.ac.uk](mailto:j.foord@londonmet.ac.uk))

A studentship is sought to research the impact of flood risk in urban coastal areas undergoing social, economic and land-use growth and densification. The project will be situated as part of a European and Asian collaborative research project (EU FP7-funded) on policy, practice and modelling social and environmental change and trends. Case studies in the UK are the Thames Gateway and the city of Portsmouth. European partners include universities and institutes in Rome, Lisbon, Brussels, Gothenburg, Jerusalem, and Asian partners in India and Vietnam. A good first degree in environmental studies or science, geography/GIS is required and preferably a further degree.

Ref 7.13 - London 2012 Summer Olympics Legacy

Contact Person: Professor Graeme Evans ([email: g.evans@londonmet.ac.uk](mailto:g.evans@londonmet.ac.uk))

The Legacy commitments arising from hosting the games in 2012 by the UK and London governments are wide ranging and ambitious. Research issues and questions are likely to include

methodologies for evaluating and measuring impacts and legacy effects, the geographic areas concerned - local, regional and national - public attitudes and choice theory, and mapping the changing landscape and communities as a result of the massive regeneration programmes and facilities under development. The opportunity to undertake research on this theme in the next 4 year period is a unique opportunity.

A good first degree in a social science or related subject is required and preferably a further degree. Skills in social survey methods - quantitative and qualitative - are also desired.

Ref 7.14 - Energy-Economy-Investment Modelling

Contact person: Dr Vlasios Voudouris (email: v.voudouris@londonmet.ac.uk)

The applications should be within the scope of the ACEGES project

(http://www.londonmet.ac.uk/lmbs/research/cibs/cibs-scenario-planning/cibs-scenario-planning_home.cfm).

In particular, we encourage applications that aim to investigate the relationships between:

- i) Spot price of crude oil,
- ii) Expectations of future oil prices
- iii) Price of crude oil futures
- iv) Oil futures spread (defined as the percent deviation of the oil futures price from the spot price of oil)
- v) Oil trade.

The overall research aim is to investigate what determines the spot and futures price of crude oil, trade between countries and the importance of the evolution of the price of oil in explaining oil production and trade of OPEC and non-OPEC countries.

Applicants are expected to have a Master's degree with a strong quantitative, econometric, mathematical or statistical focus. Programming experience in Java and/or R is desirable but not essential.

References:

- 1) Hamilton, J. (2003), What is an Oil Shock? *Journal of Econometrics*, vol. 113(2), 363-398
- 2) Alquist, R and Kilian, L. (2010), What Do We Learn from the Price of Crude Oil Futures? *Journal of Applied Econometrics*, 25(4), 539-573.
- 3) Kaufmann, R.K. (1991), Oil production in the lower 48 states: Reconciling curve fitting and econometric models. *Resources and Energy*, 13(1), 111-127

8. Sir John Cass Faculty of Art, Media and Design

Details of eligible Projects and Project Areas to follow shortly

Contact Person: Chris Smith ([email: c.d.smith@londonmet.ac.uk](mailto:c.d.smith@londonmet.ac.uk))

Research & Graduate School
September 2010