SEERC – Call for PhD Applications 2010-2011.

PhD Studentships at SEERC – Call for Applications (Deadline: May 25th 2010)

1. The PhD programme

The PhD programme is run jointly by the University of Sheffield and CITY College – International Faculty of the University of Sheffield, under a joint supervision scheme. The programme is hosted by the South East European Research Centre (SEERC) in Thessaloniki, Greece.

At SEERC there are currently two possibilities for a PhD degree:

- Full Time programme: The duration (normally) is 3 years and it requires full time commitment on the part of the PhD student, which means that one would have to be physically present at SEERC premises located in Thessaloniki. Part of the PhD programme involves the Research Training Programme (RTP) modules, where the PhD student undertakes modules for training in research methods.

- Part Time programme: with duration from 6 to 8 years (normally). To be eligible for a part-time PhD the candidate should be able to **prove significant experience in the selected field**. In this case, the PhD student has the obligation for a minimum of two visits to Thessaloniki annually for supervision purposes (with the CITY and Sheffield supervisors). All other communication with supervisors occurs via e-mail and telephone.

2. Tuition Fees

The fees for the PhD for 2009-2010 were 6950 British pounds annually for full-time study and 3475 British pounds for the part time programme (a small increase is expected every year on fees. Exact figures will be given to successful applicants).

Fee Waivers: Once again this year, the University of Sheffield will be offering a small number of fee waiver positions for students to obtain PhDs **through SEERC in Thessaloniki**. The fee waivers are decided on the criterion of academic excellence and cover tuition fees and not living expenses.

3. Submission process

We accept proposals from qualified students, either for Part-time or Full-time study. The proposals should address the **specific research topics** as listed in the table below (for detailed description, please see section 5).

Research Track 1: Enterprise Innovation and Development	
Topic 1:	Taking greenness into account in e-procurement auctions
Topic 2:	Strategy formulating of multinationals in South East Europe: Prior to, during and after the financial crisis

Topic 3:	Complexity Sciences in Industrial Ecology for a low carbon supply chain
Topic 4:	Exploring SME Innovation in a Turbulent and Complex Business Environment: The Case of South East Europe
Research Track 2: Information and Communication Technologies	
Topic 5:	Engineering Emergence in Artificial Distributed Systems for Energy and the Environment
Research Track 3: Governance, Politics and Society	
Topic 6:	Energy and Environmental Politics
Topic 7:	Globalization, Borders, and Crime in South East Europe

In order to apply, PhD candidates need to download the **Application Form** along with the **Guidance Notes** from SEERC's web site[1], complete the application, and then send, by post, one copy to SEERC and one copy to The University of Sheffield.

Please note that incomplete applications will be disqualified from the process. Candidates have to ensure that all supporting documentation is included in the application. The application form and supporting documents should be accompanied by a **Research Proposal** and an updated **CV**.

The **Research Proposal** should be typed, the length should be about 1,500 – 2,000 words (6 to 8 pages) and should include the following:

a) Title of the proposed thesis

b) Reference to one of the Specific Research Topics (section 5)

c) Proposed mode of work (full time or part time)

d) Background to research topic

e) Specific problem(s) to be examined

f) Methods of research proposal, plan and timetable of work

g) Resources available and required (if any)

h) Any other information in support of your proposal

i) The proposal should include correct literature citations and a brief bibliography

All applications should be submitted by May 25th 2010 (postmarked). Please note that the complete application forms need to be sent to **both** SEERC and The University of Sheffield at the **same** time by ordinary post. **Moreover, an electronic version of the Research proposal and the CV should be sent by May 25th 2010 by email to SEERC at phd_admissions@seerc.org.**

Please note that incomplete applications missing one or more documents or failure to submit the hard copies of the application by post (i.e. submission only of the proposal in electronic form) to SEERC and to the University of Sheffield will result to the application's disqualifying.

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[1] http://www.seerc.org/index.php?option=com_content&view=article&id=5&Itemid=59

The possible outcomes of your application are:

- Acceptance to read for a PhD
- Acceptance to read for a PhD with a fee waiver
- Rejection

All candidates will be informed on the outcome of the evaluation procedure, which will involve an interview at SEERC premises with the Proposed supervisors.

A step-by-step guide to submitting your application	
Step 1:	Read in detail the requirements from this Call for Proposals
Step 2:	Download the application form from http://www.seerc.org
Step 3:	Read the Guidance Notes for completing it
Step 4:	Prepare Research Proposal and an Updated CV according to Guidelines
Step 5:	Prepare supporting documents for inclusion in the application pack
Step 6:	Send by post 1 copy of the application documents to SEERC and 1 copy to the University of Sheffield. Do this by May 25, 2010 (post stamp as proof of validity of the application).
Step 7:	Send by May 25, 2010 the Research proposal and the updated CV by e-mail to phd_admissions@seerc.org

4. English Language Requirements

For Research Topics # 1-4 (Research Track 1) see the English language requirements of Management School English at The University of Sheffield: http://www.shef.ac.uk/management/researchstudies/entry.html

For Research Topic # 5 (Research Track 2) see the English Language requirements of the Department of Computer Science of The University of Sheffield at: http://www.shef.ac.uk/postgraduate/info/englang.html

For Research Topic # 6 (Research Track 3) see the English Language requirements of the Department of Politics of The University of Sheffield at: http://www.shef.ac.uk/politics/prospectivepg/research/apply.html

For Research Topic # 7 (Research Track 3) see the English Language requirements of the Department of Sociological Studies of The University of Sheffield at: http://www.shef.ac.uk/socstudies/ppr/applying/entry.html

5. Research Topics

Topic # 1: Taking greenness into account in e-procurement auctions

Proposed supervisors:

- Dr Andrew Brint (A.Brint@sheffield.ac.uk)
- Dr Panayiotis Ketikidis (pketikidis@seerc.org)

Proposed area of research:

This project will investigate how the increasing importance of green targets in supply chains can be handled in the context of internet procurement auctions. The latter have steadily risen in use over the last 10 years as they offer a low cost and quick means of incorporating competitive bidding into the procurement process. However in the future it is likely that not only the tendered price but the "greenness" of the bid will also need to be taken into account. When the contract will be split between several bidders, this complicates the allocation process. For example, consider the problem of electricity procurement. Different gensets have different costs but also different carbon footprints, and it may be beneficial for the purchaser to mix cheap but environmentally unfriendly generation e.g. fossil fuel, with more expensive renewables. A similar issue arises in logistics where some of the larger players may have higher overheads but also higher standards, compared with the lower cost less environmentally smaller players.

Within internet procurement auctions, combinatorial auctions have become increasingly prevalent. In a combinatorial auction, a bidder makes bids on different combinations (or numbers) of goods at the same time. The purchaser then decides on the set of bids that is most beneficial to them, and then usually information about the winning bids is published, and another round of bidding takes place. This process then iterates until a steady situation emerges. Currently what information to release after each round of bidding is an active research area with at least four different methods having their supporters. However taking into account the "greenness" of the bids will significantly complicate the process as what is the fairest selection procedure and what is the most efficient information to release after each round of bidding are open issues. A transparently fair allocation procedure is especially important in situations where the European Community requires an open tendering process.

Work on the project will involve modelling several typical tendering situations involving green costs. The ballpark figures in this modelling will be obtained from contact with businesses, e.g. logistics and manufacturing businesses in South East Europe.After models for incorporating the "greeness" information have been developed, they will be analysed via simulation, e.g. using Excel. The target publications for the work will be the Journal of Operations Management, the European Journal of Operational Research and the Journal of the Operational Research Society.

Candidate's profile:

The candidate is required to have numerical and software skills e.g. Visual Basic.

Topic # 2: Strategy Formulation of Multinationals in South-East Europe: Prior to, During, and After the Financial Crisis

Proposed supervisors:

- Prof. Mehmet Demirbag (M.Demirbag@sheffield.ac.uk)
- Dr Leslie Szamosi (szamosi@city.academic.gr)

Proposed area of research:

The impact of multinationals (MNC's) within the global economy is well documented. Also well documented is the general 'creep' of MNC's from their home markets, to other developed economies and then into emerging markets. The literature today is very clearly focused on the opportunities for such companies in emerging markets with the focus on countries such as China and India. Less well documented within this context is the growing influence and proliferation of MNC's within South-Eastern Europe (SEE).

Following the collapse of communism, the movement toward 'free market economies', and the accession towards European Union integration, MNC's have turned their sights towards SEE. The impact of foreign direct investment within the region is well documented (e.g., Bitzenis, 2008). MNCs' market entry modes have been studied for some countries in the region (Demirbag et al., 2007; 2008), but countries in the SEE region have been found to have different types of institutional infrastructure (Mellahi et al., 2009). What is unclear and unstudied is: how MNC's formulate their business strategy within the region, whether these are different or similar to other emerging markets, how strategy is implemented at the local level; and, the influence of the mother company within the SEE subsidiary. Overall, do MNC's strategize SEE as a region or as a set of distinct emerging markets? Are there differences in these views depending on MNC sector (e.g., banking, pharmaceuticals, construction).

Some possible avenues of research may include (prior to, and post the financial crisis):

- Do MNC's formulate global, regionalized or localized strategic plans within the region?
- Are there common elements to the strategic plans within MNCs throughout the region?
- What aspects of MNC strategy are open to regionalization / localization and what are considered as 'not touchable' within the region?
- How MNCs decide on location of activities for SEE region.
- Regional integration, knowledge transfer and reverse knowledge transfer between subsidiaries of MNEs in the region.
- Do MNC's develop strategic 'clusters' within the region in terms of how they approach them?
- Can a model of MNC strategic formation within the region be developed?

Candidate's profile:

Good academic background with a Masters level qualification from a good quality institution. An excellent level of English both spoken and written to meet University of Sheffield regulations would be required. Also, an appropriate level of both quantitative and qualitative research skills would be a very positive element.

Candidates that have had extensive career experience especially in the HR field (rather than purely academic experience) would have an advantage.

Topic # 3: Complexity Sciences in Industrial Ecology for a Low Carbon Supply Chain

Proposed supervisors:

- Prof. Frank Birkin (F.Birkin@sheffield.ac.uk)
- Dr James Baldwin (J.Baldwin@sheffield.ac.uk)
- Dr Panayiotis Ketikidis (pketikidis@seerc.org)

Proposed area of research:

The holistic understanding of how industrial system components (i.e., technologies, practices and policies) co-evolve and interact both between one another and with the enveloping environment is a fundamental concern of Industrial Ecologists. Evolution and change are seen as inevitable and both the performance and survival of industrial ecosystems are largely determined by a few decision-makers in their attempts to manage change and sustainable technological change in particular. At present, there is a need for both an increased understanding of the underlying processes in the adoption/implementation of sustainable technologies, practices and policies, and sophisticated software 'tools' in decision/policy-makers 'toolboxes' that help support the decision-making process. This research would attempt to demonstrate the utility of modelling and simulations from the complexity sciences in supporting the strategic, tactical and operational decision-making of, for example, the managers of eco-industrial parks/symbioses or green and low carbon supply chains. A particular type of modelling technique, which emphasises evolutionary processes, will be explored in more depth. Building on agent-based and other self-organisational modelling approaches, this technique offers three developments: i) it draws directly from the opinions of the different decision-makers on the relationships between system components leading to: ii) a representation of diversity at all levels of description, i.e., components are diverse not just their interactions; and iii) a learning process rather than the blind adaptation of a pre-defined rule-based system. Anticipated research methodology and research methods needed for gathering appropriate data include a case-study approach, which utilises secondary and then primary data sources, with the latter drawing from both qualitative (interview) and quantitative (survey) data. From this, simulations would be generated of different 'what-if' scenarios, based on the co-evolution of system components and environment, for the potential evolutionary trajectories that the system can take, providing novel insights of emergent patterns/effects and a basis to build evidence-based 'for and against' cases for particular decisions.

Candidate's profile:

Experience with modelling tools from the complexity sciences (e.g. agent based models, etc.) and interest in industrial ecology and/or green/low-carbon supply chains and their management. The mode of study is full-time.

Topic # 4: Exploring SME Innovation in a Turbulent and Complex Business Environment: The case of South East Europe

Proposed supervisors:

- Dr Sylvie Laforet (S.Laforet@sheffield.ac.uk)
- Dr Alexandros G. Psychogios (a.psychogios@city.academic.gr)

Proposed area of research:

Family businesses have been regarded as the backbone of a free economy system and vehicle for market development (Poutziouris et al., 1997). The scale of family business activities in developed countries suggest that, on average, three out of four companies are family controlled, representing almost half of the employment and nearly half of the GDP activity (Harvey, 1994). Entrepreneurial literature recognises that there are differences in entrepreneurial and managerial behaviour between family and non-family businesses. Innovation literature is yet to define what innovation means for firms and in particular, for SMEs. Just like, any other firms, SMEs will have to respond to globalisation challenges and increasing competition at home and abroad. Innovation is a vehicle that will lead to improved business performance and enables a firm to gain a competitive advantage in the market place. Therefore, this PhD research aims not only, to fill a literature gap by examining what determines innovation in SMEs, what are the characteristics of SME innovativeness and, what are the problems and opportunities for innovation in such firms. It will also, highlight to governments what measures can be taken to assist these businesses to grow and develop through innovation. Therefore, this PhD research has a balance of both academic and practical orientation. The research objective is to find out whether there are any distinctive differences about the innovation process, ways of working and culture or the internal environment that contributes to innovation/ company innovativeness of the family firm compared to non-family firms. Main theme to be investigated is related to images and concepts of complexity, knowledge, learning and innovation, in South Eastern European SMEs will be explored. In addition, the following issues will be examined:

- Innovation process used in SMEs and ways of working
- Team effectiveness, creativity (among organisational members), strategy
- Leadership style (if any) that promotes innovation
- Business Environment dynamic issues that could affect innovative behaviour
- Risk-taking culture that contributes to either facilitating or hindering innovative behaviour
- Organisational learning issues in SME context – differences with large organisations (non-SMEs)

The project will focus on the retailing and services industries, where it is believed that SMEs concentrate. Innovative SMEs are to be identified within these industries. The geographical context of analysis will be the South Eastern European one that is characterized by a high degree of turbulence and complexity. Both quantitative and qualitative approaches will be applied. Research techniques like survey-questionnaire in managers and employees, as well as in-depth interviews with owners/business leaders will be used.

Candidate's profile:

The candidate will have a good first degree (Class 2:1 or above) and/or a Master level qualification in social science area related to management/business studies, marketing, economics/finance. Also, the candidate needs to be enthusiastic, hard working, well-organised and able to prioritise work demands. She/he needs to work in a full-time basis. Previous research experience would be an advantage as with knowledge of SPSS, Excel software packages. Full research training will be provided.

Topic # 5: Engineering Emergence in Artificial Distributed Systems for Energy and the Environment

Proposed supervisors:

- Dr George Eleftherakis (eleftherakis@city.academic.gr)

Proposed area of research:

The last two decades the complexity or scale of some applications rose so fast that a single machine could not handle. The client server paradigm became unable to respond to the user demands in a reliable and efficient manner. Centralized systems are prone to a single point of failure and their overall efficiency was affected by the bottlenecks on the server side.

Two are the main advantages that distributed architectures offer compared to centralised approaches; avoidance of the single point failure problem and better scalability and utilisation of resources. Therefore it seems natural that in recent years systems operating within distributed environments have experienced considerable growth in size and diversity.

At the same time the development of Grid environments, the shift to service oriented architectures, the increased interconnectivity between computer networks, cloud computing, the introduction of the Internet of things leading to an explosive increase of the number of computers connected, moved distributed systems beyond the initial application of facilitating file exchange to a much broader range of domains. But all these led to an increased demand for complex and scalable applications. In order to cope with this demand modern distributed applications must: be able to easily scale up to any number of nodes required; maintain availability even under extremely dynamic conditions; enable efficient discovery of resources in highly dynamic conditions; be able to adopt to the diverse user demands and conditions in the network; maintain a desired level of security in all aspects of operation; require minimal human configuration and management.

Different approaches and architectures in the past offered solutions and satisfied several of these requirements and some hybrid approaches attempted to increase the number of the issues resolved. The last years there is a trend to be inspired by natural systems by introducing bio-inspired properties and behaviours, so that a distributed environment could become a complex adaptive system, in the sense that adaptation, resilience and self-organization will emerge as a result of simple interactions between peers.

In parallel, an increasing part of the world-wide energy supply is coming from distributed generation of electricity of different sources of electric power. Thus power distribution networks could evolve from a centrally and hierarchically controlled structure into a very big and totally distributed network.

The aim of this work will be to investigate all the above mentioned areas and propose a generic bio-inspired solution based on a set of emergent self-optimising structures

and processes which will be the major catalyst for efficiency, scalability and adaptability in a (fully) distributed network. The case study that will be used to demonstrate the applicability of the approach should be taken from the energy and environment domain and could be the control of a distributed energy supply network that would probably require no human interaction or autonomous control of energy for intelligent homes or buildings, waste management etc.

Candidate's profile:

The candidate should possess a Bachelor's and Master's degree in Computer Science or Engineering or other relevant discipline and have a rather strong mathematical background. It is normally expected that the mode of study is F/T.

Topic # 6: Energy and Environmental Politics

Proposed supervisors:

- Dr Filippos Proedrou (fiproedrou@seerc.org)
- Dr Charles Lees (C.S.J.Lees@sheffield.ac.uk)

Proposed area of research:

Energy and environmental politics have ascended to top priority in the 21st century. The growing competition for security of supplies in a world that is progressively characterized by scarcity of resources is coupled by stable patterns of cooperation among most producers and consumers. At the same time, energy consumption posits critical challenges to the environment thus calling for solutions pertaining to sustainable development. The nuances and complexities between energy security, environmental protection and sustainable development as well as international politics proliferate and deepen. In Europe security of supply as well as security of demand have become matters of grave concern for the most important exporter, Russia, and the most significant and lucrative importer, the European Union. The wider South-East European region is a theatre of these developments. Energy and environmental politics thus present a number of challenges for South-East Europe and will play a decisive role in co-determining the mid-term future of the region.

Topic # 7: Globalization, Borders and Crime in South East Europe

Proposed supervisors:

- Dr Paul Knepper (P.Knepper@sheffield.ac.uk)

Proposed area of research:

Globalization has rendered the transcendence of borders more feasible than ever. All the positive consequences notwithstanding, such developments also favor the expansion of dangerous forces. The actions of networks of transnational crime (mafias, drug gangs etc.) have become acute and pose a threat to the well-being of local and state societies. These networks thrive usually in regions that are poorly governed and it is in these areas that their impact is harsher. The interrelationship between existing state and societal structures and networks of transnational crime, and the potential ways to diminish these networks' impact and improve governance, remains of primary importance. The South-East European region is quite diversified with regard to the solidity of political and social structures and in many occasions provides a favorable arena for criminal agents.

South East European Research Centre

24, Proxenou Koromila Street

54622, Thessaloniki, Greece

Tel: +30 2310 253478

Fax: +30 2310 234205

contact@seerc.org

http://www.seerc.org