ANNUAL RESEARCH REVIEW
2006-2007

OXFORD INSTITUTE FOR SUSTAINABLE DEVELOPMENT
INTERNATIONAL LAND MARKETS RESEARCH GROUP (OISD-ILM)

Department of Real Estate and Construction
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SUSTAINABLE DEVELOPMENT
INTERNATIONAL LAND MARKETS
RESEARCH GROUP (OISD-ILM)

OXFORD BROOKES UNIVERSITY
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INTRODUCTION

Welcome to the International Land Market (ILM) annual review of research for the period 1st August 2006 to 31st July 2007. The ILM covers all research activity undertaken by staff at the Department of Real estate and Construction (REC). This is set within the larger organisational framework of the Oxford Institute for Sustainable Development (OISD).

This report is being distributed to current students and past graduates of the Department of Real Estate and Construction (REC) and both professional and academic colleagues who support our work. The report contains a summary of activities and selected extracts of work published by staff active within the ILM research group.

If you have any enquiries or would like additional copies, please email the ILM/REC Research Coordinator Dr. Ramin Keivani at: rkeivani@brookes.ac.uk.

STRATEGIC RESEARCH GOALS

Research and scholarly excellence are central to the working ethos and academic tradition at the Department of Real Estate and Construction and the ILM research group. This is manifest in the following goals of our research strategy:

- To be international leaders in our fields of expertise
- To promote sustainable development in real estate and construction
- To deliver inputs (e.g., research funding successes) and outputs (e.g., publications) which will be assessed as of international standing for the majority of research active staff
- To link student learning, teaching and research
- To link applied research and consultancy with international, national, regional and local agents and markets – and to provide information to the widest range of professionals and users in real estate and construction

In the year ending July 2007 ILM research staff strived towards these goals by actively pursuing their research interests through innovative projects, developing new areas and consolidating their publication record and conference presentations. In addition we have expanded our research capabilities through additional strategic new appointments. Most notably we appointed Joe Tah as Professor in Construction Management. Joe joined us from University of Salford and will be leading our research activities in construction. He will also be taking forward the new Masters programmes in Project Management. Joe Tah is a seminal researcher on application of information technology and artificial intelligence in construction. He has also a solid research track record in a range of other related fields including knowledge management and supply chain networks. He will play a major role in expanding our research capacity and establishing collaborative work with internal and external partners.

AN OVERVIEW OF RESEARCH ACTIVITY 2006-2007

OXFORD INSTITUTE FOR SUSTAINABLE DEVELOPMENT (OISD)

During the past year the OISD has provided an important platform for expanding our research activities in collaboration with other research groups within the institute. These have included joint applications for research funding for prominent funding organisation including ESRC, EPSRC, regional and governments. We have also produced a number of joint papers and pursued collaborative work on two major research projects initially secured during the 2005-2006 period. These are:

- Project funded through HEIF3 for work on products, processes and metrics in the built environment. This is designed to bring a coordinated approach to developing business linkages and knowledge transfer within OISD. The work is a collaboration between the International Land Markets; Architecture, Culture and Technology and Environmental Assessment and Spatial Planning Research Groups.
- Project funded by the European Investment Bank for a 3 years to work on measuring social sustainability in urban renewal in the EU. This work is a collaboration between the
The ILM group has scored major successes in developing its main research themes and developing new horizons in the review period. This is manifest in our success in winning research and consultancy contracts, increasing our publication outputs and expanding our PhD programme. Most notably we secured major new funding from the Investment Property Forum (IPF) to study the demand for sustainable commercial office buildings in the UK and were commissioned by the National Trust for a project on green infrastructure in growth areas.

For further information on OISD activities please refer to www.brookes.ac.uk/schools/be/oisd
# RESEARCH AND CONSULTANCY PROJECTS

In the 2006-2007 period the following research was undertaken by members of staff at the Department of Real Estate and Construction:

## Projects completed during the review period

<table>
<thead>
<tr>
<th>Project title</th>
<th>Why China? Why Now? The role of property markets in supporting economic and social development in China</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researcher</td>
<td>Albert Cao and Ramin Keivani</td>
</tr>
</tbody>
</table>
| Summary       | At present, non-Chinese are well represented in the country as occupiers of primary offices, accounting for 50% of the top quality office space in Beijing and Shanghai. However, very few commercial buildings are owned by non-Chinese foreign investors from developed countries. Lack of foreign involvement has held back the real estate investment market. As a result knowledge and experience in developed economies on property investment cannot be effectively transferred into China. This research looked at ways that China can develop its property investment market, providing new outlets for domestic and overseas investors, adding new money and expertise to its real estate growth. It included the following areas:  
  - Wholesale assessment of the legal framework and market practices surrounding property investment  
  - Comparison between UK and China in the development of property investment market  
  - Reforming land tenure, the legal framework and market rules  
  - Changing the role of local government in the property market  
| Funding Organisation | Royal Institution of Chartered Surveyors (RICS) and Shui On Ltd Hong Kong |

<table>
<thead>
<tr>
<th>Project title</th>
<th>Knowledge creation capability and absorptive capacity of integrated project teams in the construction industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researcher</td>
<td>Esra Kurul, Andrea Colantonio and Noriko Otsuka (with industrial partnership)</td>
</tr>
</tbody>
</table>
| Summary       | In addition to novel research findings, this project facilitated the development of close and strong links with industrial partners, which the team aims to sustain. It also yielded some opportunities for commercialisation of the Social Network Analysis based methodological approach. The team expects some of these opportunities to be explored through the HEIF 3 funding that the Department secured. A series of two workshops were held in September 2006 in order to disseminate findings to practitioners and academics in the field. These workshops were held at RICS, London and Manchester University and were both well received by the delegates. The methodological approach struck delegates as one that could help them understand how teams within their organisations were connected. The main findings are that:  
  - Project managers (PMs) have a unique advantage in accessing external source of knowledge;  
  - PMs are knowledge brokers within their teams with power to control knowledge flows in these networks;  
  - There may be excessive, non-value generating communication in closely-knit networks. |
<p>| Funding Organisation | Engineering and Physical Sciences Research Council (EPSRC) |</p>
<table>
<thead>
<tr>
<th>Project title</th>
<th>The benefits and risks of Low Cost Home Ownership in different housing markets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researcher</td>
<td>Youngha Cho</td>
</tr>
<tr>
<td>Summary</td>
<td>This research aimed to explore the benefits and risks of the UK new Low Cost Home Ownership initiatives. The objective of this research was to clarify the extent to which these schemes are appropriately targeted from the government point of view; and are they sustainable - value for money from the subsidies involved and appropriate risk sharing- for government and households both sides. The research findings indicate:</td>
</tr>
<tr>
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<td>• Those buying under the current LCHO schemes in England are very different from first time buyers both in terms of household attributes and income. The major two schemes support in general different groups of households with Shared Ownership concentrating on single peoples and couples while Homebuy is taken up mainly by more settled family household.</td>
</tr>
<tr>
<td></td>
<td>• In terms of free up social sector housing, Homebuy tends to move people on into the market sector, whilst Shared Ownership plays a very different role addressing the needs of lower income households by helping those who are living with family and friends rather than those already in social housing.</td>
</tr>
<tr>
<td></td>
<td>• As the values of the properties of LCHO households are relatively higher than those of the properties bought by first time buyers and as their incomes are relatively low, their housing cost/income ratios are far worse than the average within the market sector. Affordability among lower income purchasers is often well above the affordability bench market for that income group.</td>
</tr>
<tr>
<td></td>
<td>• Even so there is little evidence of payment problems with the vast majority able to make their payments and indeed move on to full home ownership fairly rapidly.</td>
</tr>
<tr>
<td></td>
<td>• To this extent the schemes seem to be reasonably well targeted. However, what matters of LCHO households across the country is income, reflecting the fact that the poorest households cannot afford the schemes even with significant subsidy.</td>
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<tr>
<td>Funding Organisation</td>
<td>Engineering and Physical Sciences Research Council (EPSRC)</td>
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<table>
<thead>
<tr>
<th>Project title</th>
<th>Role of the development industry in the UK – international comparisons</th>
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<tbody>
<tr>
<td>Researcher</td>
<td>Tim Dixon</td>
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<tr>
<td>Summary</td>
<td>This was part of the continuing work on brownfield regeneration in the EPSRC SUBR:IM programme (Sustainable Urban Brownfield Regeneration: Integrated Management). Previous work, which highlighted structural deficiencies in infrastructure provision in Thames Gateway and Greater Manchester, received extensive coverage in the national press (Times, Sunday Telegraph, FT and Guardian). New work has now been undertaken to include international comparisons of best practice working with Peter Meyer and Kristen Yount at the University of Kentucky, USA. This work is examining how long term liability on contaminated land creates issues over stewardship and sustainability in both the UK and USA.</td>
</tr>
<tr>
<td>Funding Organisation</td>
<td>Engineering and Physical Sciences Research Council (EPSRC)</td>
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<tr>
<td><strong>Project title</strong></td>
<td>The Impact of climate change on brownfield land</td>
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<tr>
<td><strong>Researcher</strong></td>
<td>Tim Dixon</td>
</tr>
<tr>
<td><strong>Summary</strong></td>
<td>This was also part of the continuing work on brownfield regeneration in the EPSRC SUBR:IM programme (Sustainable Urban Brownfield Regeneration: Integrated Management). This project was jointly conducted with Universities of Cambridge and Reading, Kings College, BRE and Forest Research. The project combined social science and science disciplines and aimed to investigate how climate change can affect remediation techniques in the long term, particularly containment and barrier methods. The ILM part of the research examined developer attitudes towards climate change and brownfield development and was based on an extensive national survey of developers and case studies in the Thames Gateway.</td>
</tr>
<tr>
<td><strong>Funding Organisation</strong></td>
<td>Engineering and Physical Sciences Research Council (EPSRC)</td>
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<tr>
<th><strong>Project title</strong></th>
<th>Sustainability tools audit</th>
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<tr>
<td><strong>Researcher</strong></td>
<td>Tim Dixon, David Shiers and Andrea Colantonio</td>
</tr>
<tr>
<td><strong>Summary</strong></td>
<td>This research established the extent to which RICS practising members adopt and apply sustainability tools in practice across the lifecycle of development, construction, occupation and management of buildings and land. Building on existing work, the project examined the availability and uptake of sustainability indicators (in both the built and natural environments) across the property development, construction and management/occupation lifecycle in exemplar countries (EU, USA and Oceania/rest of the world), and used international survey work, case studies and interviews/focus groups to identify potential mismatches between the ‘supply’ and ‘demand’ for such indicators at a variety of spatial scales. The research was led by ILM in partnership with Georgia State University in the USA, University of Melbourne in Australia, and King Sturge (international property consultants). Project website at: <a href="http://www.brookes.ac.uk/schools/be/oisd/sustainability_audit/">http://www.brookes.ac.uk/schools/be/oisd/sustainability_audit/</a>!</td>
</tr>
<tr>
<td><strong>Funding Organisation</strong></td>
<td>Royal Institution of Chartered Surveyors (RICS)</td>
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</table>
### City development strategy in Iran

**Project title:** City development strategy in Iran  
**Researcher:** Ramin Keivani  
**Summary:** This consultancy was undertaken in collaboration with Prof. Nigel Harris from UCL. It is part of the Urban Upgrading and Housing Reform Programme (UUHRP) in Iran advising on the City Development Strategies (CDS) component of the work. This involved various training sessions and field visits to different cities of Iran to familiarise Iranian planners and public officials with the principles of CDS and its application to the Iranian cities.  
**Funding Organisation:** World Bank

### Sustainable Rural Communities

**Project title:** Sustainable Rural Communities  
**Researcher:** Ann Boon  
**Summary:** This project involved the application of current thinking on sustainable communities, as set out in the EU’s Bristol Accord (November 2005), to the future development of a former MoD/RAF site in the Cotswolds AONB as a sustainable rural community. The site has the advantage of an established business park occupying the former RAF operational buildings and a residential area in the now largely privately owned former RAF housing. The challenge is to use future development to create a thriving sustainable rural community out of a disparate development. This study, which is part one of a two part project, focussed on developing an overall framework upon which a future development plan, specifically tailored to the needs of Upper Rissington, can be based.  
**Funding Organisation:** CgMs (Cheltenham)/Redland

### Projects continued from previous year

**Project title:** Updating the Green Guides to Specification  
**Researcher:** David Shiers in collaboration with the Building Research Establishment (BRE)  
**Summary:** First designed by David Shiers in 1994 the Green Guides are an innovative and original, quantitative method of assessing the environmental impact of materials and components. The guides were last updated in 2001. Revisions to building regulations, other legislation and improvement in the performance of construction products have necessitated an update of the Guides. The project is a collaborative undertaking involving industrial partners including the NHBC, WRAP, The Department of Education and Science, Construction Products Association, HSBC Bank and Willmott Dixon construction.  
**Funding Organisation:** Quality Research Fund, Industrial Partners and UK Government Agencies
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<th>Project title</th>
<th>The UK Housebuilding Industry: An Analysis of post-Barker Structural Responses</th>
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<tr>
<td>Researcher</td>
<td>Youngha Cho</td>
</tr>
<tr>
<td>Summary</td>
<td>This research aims to explore the impact of the recent changes of housing policy after the Barker Review on UK house building companies’ strategic behaviour. It will be undertaken within the framework of sustainability. The research objectives are to understand the challenges that the building companies are facing; to investigate how they are responding to the challenges; and to examine the role of the private sector in developing sustainable communities which UK government aims to achieve. Four main themes are identified to define the scope of the study: 1. Micro analysis on the outcomes of the house building company  • Business scale and scope based on the range of product (within/between industries)  • Targeted market (national vs. regional)  • Turnover and profits 2. Changes of the strategic business plan  • Corporate social responsibility strategy  • Sustainable development/supply of affordable housing/mixed-use development  • Brownfield development  • Changes to process and innovation development  • Land banking strategy 3. Dynamic relationship across the two themes. The research is carried out mainly using secondary data analysis and web-based research for top 100 housebuilding companies and detailed case study analyses will be taken place, if necessary. The research will contribute to disseminating current practice of the business decision making which the companies face, which has been academically under-researched.</td>
</tr>
<tr>
<td>Funding Organisation</td>
<td>Quality Research fund</td>
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<tr>
<th>Project title</th>
<th>Effective property tax administration</th>
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<tbody>
<tr>
<td>Researcher</td>
<td>Richard Grover</td>
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<tr>
<td>Summary</td>
<td>This consultancy work involves partners from Romania and Greece. The work aims at developing quality training approaches for property market valuation professionals for an effective property tax administration in the partner countries.</td>
</tr>
<tr>
<td>Funding Organisation</td>
<td>EU Leonardo Programme</td>
</tr>
<tr>
<td>Project title</td>
<td>Analysis and design of scaffold structures</td>
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<tr>
<td>Researcher</td>
<td>Rob Beale, Mike Godley and Mutasim Abdel-Jaber</td>
</tr>
<tr>
<td>Summary</td>
<td>Rob Beale and Mike Godley have been involved in developing methods of advanced structural analysis to determine the forces and deflections occurring within scaffold structures. The analyses have led to the development of new proprietary scaffold systems being marketed by Interserv UK Ltd and to improved procedures by the Health and Safety Executive (HSE) to check scaffold safety. During the last year research has been concentrated on developing mathematical models for the joint behaviour in scaffold systems which led to a conference publication. As a result of research by Mike Godley the National Access Scaffold Confederation (NASC) has published a Guide to scaffolding design using the new Eurocode EN12811. However, due to a lack of data assumptions made by Mike Godley in drawing up the guide led to a large reduction in design capacity which was received unfavourably by the industry. Further research was then commissioned by the NASC to obtain experimental data on putlog and right-angled connections. This work was carried out by Mutasim Abdel-Jaber whilst on a short sabbatical from his University in Jordan and the preliminary results presented in a conference publication. The full results will be published in a journal paper and a report to the NASC. Rob Beale was invited to give a full length review paper on scaffolding to a conference in Malta which appears as a chapter in a book.</td>
</tr>
<tr>
<td>Funding Organisation</td>
<td>Interserv UK Ltd and National Access &amp; Scaffolding Confederation.</td>
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<tr>
<th>Project title</th>
<th>Pallet Rack Structures</th>
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<tr>
<td>Researcher</td>
<td>Rob Beale and Mike Godley</td>
</tr>
<tr>
<td>Summary</td>
<td>During the last year release 3 of the ‘state-of the- art’ program called Palletsoft, marketed by the University, using the analysis methods developed by Mike Godley and Rob Beale was issued to companies. This is a design program that permits manufacturers to quickly and efficiently determine the load carrying capacity of their storage systems in accordance with the provisions of existing structural codes of practice. The latest release included facilities designed for the Australian market. Research is being conducted into the dynamic and seismic behaviour of storage racking structures and into for a better understanding of their shear behaviour. This research has led to two conference publications and for two journal articles which are currently in press and due to be published in December 2007/January 2008. The results from one of the articles in press are being used to propose changes to the new draft Eurocode on racking structures.</td>
</tr>
<tr>
<td>Funding Organisation</td>
<td>Quality Research Fund and Hi-Lo/Planned Storage Systems Ltd</td>
</tr>
</tbody>
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### New projects

<table>
<thead>
<tr>
<th>Project title</th>
<th>Measuring social sustainability: best practice from urban renewal in the EU</th>
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<tbody>
<tr>
<td><strong>Researcher</strong></td>
<td>Tim Dixon, Andrea Colantonio, Juliet Carpenter, David Shiers, John Glasson, Graham Wood</td>
</tr>
</tbody>
</table>
| **Summary**                                                                  | This 3 year programme of research (one of only four awards made by EIB during 2006) will focus on the following issues within an EU context, examining a range of urban renewal projects and related infrastructure covering commercial and residential development:  
  - Definitions and measures of ‘social sustainability’: a review and critique.  
  - Implementation - to what extent and in what ways is social sustainability incorporated within urban renewal projects within the EU? What is the optimum balance between commercial and residential development (or in residential projects, tenure and income mix) in order to provide the widest social benefits?  
  - Best practice techniques - how can we learn from the way in which social sustainability has been incorporated in projects? How do lenders and investors approach social sustainability for urban renewal projects?  
  - New tools - can improved tools be developed to assess social sustainability and also enhance its consideration in decision processes and project / programme outcomes? Can these tools also be used in projects based within transition (new member) states? How do the new tools fit the existing institutional and planning frameworks and what are the implications for investment lending? |
| **Funding Organisation**                                                     | European Investment Bank |

<table>
<thead>
<tr>
<th>Project title</th>
<th>Develop quality training approaches for property market for an effective property tax administration</th>
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<tbody>
<tr>
<td><strong>Researcher</strong></td>
<td>Richard Grover in partnership with colleagues from Romania, Greece and Hungary</td>
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</tbody>
</table>
| **Summary**                                                                  | The project is led by Centrul Regional de Formare Continua Pentru Administratia Publica Locala of Bucharest (CRFB) and the other partners are ANEVAR (Romania), the Technical University of Bucharest (Romania), CVT Georgiki Anaptixi (Greece), and the University of West Hungary (Hungary). The project timescale is 31 December 2005 for two years.  
The project involves the creation of an e-learning course in valuations for real estate taxes, which includes modules on valuation techniques, valuation standards, mass appraisal, the measurement of property, and the determinants of land value. Research has been undertaken into the property tax systems in the four countries, their valuation methods and standards, and the training and education of valuers. Outputs to date have included a paper at the 2007 ERES conference in London on property taxation in transitional economies and a paper to the FIG seminar in Helsinki in September on compulsory purchase in the transitional economies. |
| **Funding Organisation**                                                     | European Union through Leonardo da Vinci Programme  
<table>
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<tr>
<th>Project title</th>
<th>Good governance in land tenure and administration</th>
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<tr>
<td>Researcher</td>
<td>Richard Grover, Mika-Petteri Törhönen, David Palmer and Paul Munro-Faure</td>
</tr>
<tr>
<td>Summary</td>
<td>Project completed. Booklet published in FAO Land Tenure Studies series and article to be published in Land Reform, Land Settlement and Co-operatives</td>
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<tr>
<td>Funding Organisation</td>
<td>Food and Agriculture Organization of the United Nations (UNFAO)</td>
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<table>
<thead>
<tr>
<th>Project title</th>
<th>Products, Processes and Metrics for the Built Environment (PPM&lt;sub&gt;BE&lt;/sub&gt;)</th>
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</thead>
<tbody>
<tr>
<td>Researcher</td>
<td>Tim Dixon, Esra Kurul and Noriko Otsuka</td>
</tr>
</tbody>
</table>
| Summary      | This new initiative is designed to bring a co-ordinated approach to developing business linkages and knowledge transfer within OISD. PPM<sub>BE</sub> is designed to bring together three key areas of expertise within OISD:  
- **Products** – developing and using sustainable building design and construction *(Architecture)*.  
- **Processes** – assessing and analysing the impact of sustainable building and construction on the real estate investment, development and construction processes, in terms of decision-making, asset management, knowledge management and value management *(Real Estate and Construction)*.  
- **Metrics** – measuring the impact of sustainable design and construction at building, city and regional economy scales *(Planning and Energy Carbon Counting)*.  
Planned activities include a Newsletter; Major research conference; specialist workshops; CPD programmes, and Developing new research and consultancy partnerships in our core areas.  
Project website at: [http://www.brookes.ac.uk/schools/be/oisd/ppm/index.html](http://www.brookes.ac.uk/schools/be/oisd/ppm/index.html) |
| Funding Organisation | Higher Education Innovation Fund (HEIF3) |

<table>
<thead>
<tr>
<th>Project title</th>
<th>Modelling the future take-up of low-cost homeownership products</th>
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<tr>
<td>Researcher</td>
<td>Youngha Cho</td>
</tr>
</tbody>
</table>
| Summary      | This research is part of a collaborative work with Prof. Christine Whitehead and a research team from University of Cambridge.. The aims of the research are:  
- to develop a robust model which enables estimates of take-up to be provided and which can be easily adapted to examine different products/assess the impact of varying assumptions;  
- to enable DCLG to better estimate the likely take-up of different LCHO products, including Right-to-Buy, Shared Ownership and HomeBuy and the factors that influence this take-up; and  
- to help DCLG understand better the drivers behind potential future take-up of LCHO assistance. |
<p>| Funding Organisation | Department for Communities and Local Government (DCLG) |</p>
<table>
<thead>
<tr>
<th>Project title</th>
<th>The impact of stigma on brownfield sites: international comparison between Japan and UK.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researcher</td>
<td>Noriko Otsuka</td>
</tr>
</tbody>
</table>
| Summary       | The research will explore comparative implications for stigma attached to contaminated brownfield sites in Japan and in the UK. The main focus of the study is to examine:  
  - different types of contaminants and stigma attached to brownfield sites;  
  - perception of different stakeholders involved in the regeneration of contaminated sites;  
  - best practice which succeeded in overcoming various types of stigma and implementing regeneration projects.  
This study will provide an excellent opportunity to facilitate a comparative study between Japan and the UK in the field of ‘brownfield’ regeneration. At the moment, the international comparisons in this field have been done predominantly between the UK, USA and European countries. As one of the post-industrial counties which needs to find urgent solutions to revitalise former industrial sites, it is hoped that Japan may be able to learn lessons from those countries which have advanced knowledge of the regeneration of ‘brownfield’. Because of the widening application area of the ‘brownfield’ theory, UK counterparts will benefit from this research.  
This work has been jointly developed with Osaka University in Japan. |
| Funding Organisation | The Daiwa Anglo-Japan Foundation/ The Great Britain Sasakawa Foundation |

<table>
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<tr>
<th>Project title</th>
<th>Structural Performance of Cold-formed Cladding Systems</th>
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<tr>
<td>Researcher</td>
<td>Michael Hill, Rob Beale and Ray Ogden</td>
</tr>
<tr>
<td>Summary</td>
<td>Light steel cladding systems are widely used in the construction industry where they are fitted to steel frames. In the last few years due to increased demands on thermal efficiency the depth of the cladding systems has increased from its original 80mm where significant research was undertaken by the Steel Construction Institute and others to current practice of up to 220mm and with a possibility of even larger sizes in future. The first part of the project was to investigate the literature and current code provisions. Michael has demonstrated that the current research and design assumptions may be invalid as they ignore the spacing between the inner and outer leaves of the cladding and only consider the cladding as a single layer. An experimental rig is being designed to test full size panels with the larger spacing between leaves to get an empirical understanding of the behaviour. Analytical models will then be developed and revised design provisions produced. The specimens will be provided by Corus and Fixing Point Ltd.</td>
</tr>
<tr>
<td>Funding Organisation</td>
<td>School Staff development funding, Quality research money, Corus and Fixing-Point Ltd</td>
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</tbody>
</table>
## Secured projects commencing October 2007

<table>
<thead>
<tr>
<th>Project title</th>
<th>Is there a demand for sustainable commercial office buildings in the UK?: An analysis of the occupier market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researcher</td>
<td>Tim Dixon, Claire Roberts, Sally Sims, David Shiers and Nick French</td>
</tr>
</tbody>
</table>
| Summary       | The research is designed to provide a detailed analysis of occupier demand for sustainable offices in the UK, focusing on actual demand as represented by acquisition decisions, as opposed to perceived demand as represented by listed requirements. The central aims of this research are firstly to identify the occupier demand for sustainable offices in the UK and secondly, to explore the post-occupation experiences of sustainable commercial building occupiers. The related objectives of the research are to:  
  - Scope and compile relevant literature relating to sustainability in commercial property to provide an overview of existing published research;  
  - Provide an overview of the legislation and initiatives for sustainability in commercial office property in the UK;  
  - Identify current perceptions of, and demand for, sustainable buildings amongst different sub-sectors of the office occupier sector;  
  - Identify both the drivers and barriers towards sustainable commercial property for key stakeholders;  
  - Explore the role of sustainability in occupier decision-making;  
  - Examine the post-occupancy perceptions of sustainable office buildings amongst occupiers and to relate this to the original factors influencing the decision to occupy. |
| Funding Organisation | Investment Property Forum |

<table>
<thead>
<tr>
<th>Project title</th>
<th>Research Into Global Healthcare Tools (RIGHT)</th>
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<tbody>
<tr>
<td>Researcher</td>
<td>Joe Tah</td>
</tr>
<tr>
<td>Summary</td>
<td>RIGHT is a multi-university feasibility study that is investigating ways in which modelling and simulation might be used to help healthcare providers improve their service. It aims to assess, through ‘proof of concept’ testing, the feasibility of applying some of the best practice modelling and simulation methods that are used to support decision-making in other sectors such as manufacturing, aerospace and the military to decision-making in healthcare. The intention is to develop a framework that connects users’ needs, users’ resources and any available modelling tools to assist NHS staff at all levels, from those who engage in delivery through to planners and policy-makers. The project involves Brookes, Brunel, Cambridge, Cranfield, Southampton and Ulster. Our role is to examine ways in which the built environment influences health care delivery.</td>
</tr>
<tr>
<td>Funding Organisation</td>
<td>Engineering and Physical Sciences Research Council (EPSRC)</td>
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<td>Project title</td>
<td>Green Infrastructure: Evaluation and application of policy benchmarks to growth areas</td>
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<td>---------------</td>
<td>----------------------------------------------------------------------------------</td>
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<tr>
<td>Researcher</td>
<td>Michael Stubbs</td>
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<tr>
<td>Summary</td>
<td>This new one year programme is designed to apply a variety of previously established land use policies and methods of benefit-analysis to the provision of Green Infrastructure, as established in the South East Plan Regional Spatial Strategy (2007). The work will use a variety of countryside sites with a predominant focus on 'natural' green space, to evaluate the various benefits derived from recreation use therein. The findings are to be reported and considered within an advocacy capacity, in which green infrastructure is planned for within the Government's 5 key growth areas as identified in the Sustainable Communities Plan 2004</td>
</tr>
<tr>
<td>Funding Organisation</td>
<td>The National Trust</td>
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<table>
<thead>
<tr>
<th>Project title</th>
<th>Working with Industry to Create Collaborative Research Opportunities</th>
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<tr>
<td>Researcher</td>
<td>Dr Esra Kurul</td>
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<tr>
<td>Summary</td>
<td>The main aim of this project is to encourage students to get involved in undergraduate research by providing an opportunity to conduct a small scale research project which will have immediate practical application. Close collaboration with industrial partners that have pertinent research needs will be instrumental in achieving its aim. The project’s first objective is to develop a matrix which maps the match between the research needs of the industrial partners and the research expertise and skills inherent within the Department including the students taking part in this study. A second year module will then be redesigned to integrate this scheme, which will be piloted on a small group of students during 2007-08. Based on the evaluation of the pilot scheme, the scheme will be refined and rolled out in 2008-09. Last, but not least, the main scheme will be evaluated and strategies for maintain its sustainability will be developed; and findings of the research will be disseminated. The benefits of the scheme for parties involved are as follows:</td>
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<td></td>
<td><strong>Students</strong></td>
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<td></td>
<td>• Exposure to “real-life” problems</td>
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<tr>
<td></td>
<td>• Development of appropriate research and analytical skills</td>
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<td></td>
<td>• Motivation through being involved in practical tasks which are relevant to their future profession</td>
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<td></td>
<td>• Close interaction with the industry</td>
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<td></td>
<td><strong>Academic</strong></td>
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<tr>
<td></td>
<td>• Keeping abreast of developments in practice</td>
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<td></td>
<td>• Closer interaction with the industry</td>
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<td></td>
<td>• Possibly research collaboration on externally funded projects</td>
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<td></td>
<td><strong>Host Companies</strong></td>
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<td></td>
<td>• Access to advanced analytical &amp; research skills</td>
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<td></td>
<td>• Access to bright, young talent &amp; eventually a chance to recruit them</td>
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<td></td>
<td>• Possibly access to a wide-range of disciplines in the School &amp; the University</td>
</tr>
</tbody>
</table>

| Funding Organisation | The Re-invention Centre for Undergraduate Research (A Centre for Excellence in Teaching and Learning) |
RESEARCH ACTIVE STAFF

In the 2006-2007 review period seventeen core and two associated members of staff contributed to our research activities. These are:

Core staff

Dr. J Albert Cao

is a specialist in real estate valuation and investment with special interests in China’s urban land market, housing and commercial real estate. Other areas of his interest include the UK real estate investment market, housing market and real estate markets in transition economies.

Dr. Cao has been leading a link project with East China Normal University funded by the British Academy on comparison of housing market operations between China and the UK.

Dr. Franco Cheung

is a senior lecturer and a quantity surveyor by professional discipline. His research expertises are construction cost modelling and forecasting techniques. His works produced in the past have been published in the leading refereed journals such as the Construction Management and Economics and the Building and Environment and disseminated in the conferences around the world. Recently, he is extending his study to the areas of choice making and judgemental bias.

Franco is an editorial member of the Surveying and Built Environment Journal and was the editor of its June 2006 issue.
Dr. Youngha Cho

is a lecturer in the department of Real Estate and Construction. Youngha's research interests are mainly in the fields of housing economics, housing policy and more general issues of sustainable residential property development. She has been involved in wide range of housing related research, including residential mobility, affordability in social housing sector, intermediate housing tenure, micro analysis of housebuilding industry and sustainability issue in residential property development.

As an associate of the University of Cambridge, she has been working on several research projects on intermediate tenure group, such as Shared Ownership and Homebuy. This year Youngha has completed a Promising Research Fellowship project on the costs and benefits of the Low Cost Home Ownership. Recently Youngha and the research team in Cambridge started another project on 'Modelling Future Take-up of the Low Cost Home Ownership Products' which is funded by Department of Community and Local Government. She is also carrying out a Quality Research project on the UK Housebuilding Industry, focusing on housebuilding companies' strategic responses after the Barker Review. She has been networking with several institutions in South Korea and Hong Kong as a Visiting Fellow in the Research Institute for Human Settlement (KRIHS) since April 2005.

Dr. Andrea Colantonio

joined ILM in 2005 as a post doctoral research associate on the EPSRC project: Knowledge creation capability and absorptive capacity of integrated project teams in the construction industry.

Dr. Colantonio is an economist who has subsequently developed research interests in the areas of comparative urban studies, tourism development and environment in less developed countries and continuing socialist states. Most specifically, he is interested in investigating the links between globalising economic forces, local responses and environmental and social change in the urban areas of less developed countries, with a special emphasis on the Caribbean and Latin America. In 2005, he completed a PhD research on the political economy of urban tourism development in Havana, Cuba, during the 1990s. The research encompassed the study of the allocation of tourism resources and its impacts, the generation of tourism policy, and the politics of tourism development in Cuba. Along similar lines, he have also undertaken research on participatory planning, urban governance and stakeholders analysis, endeavouring to study a possible ‘third way’ between market-based and centrally planned forms of economic and political governance.

In 2002, Dr. Colantonio also worked for the Environmental Industries Commission, London, participating in the Commission’s lobbying activities. In the future, he is planning to focus his research on the dominant urban environmental and economic challenges experienced by cities at different levels of development throughout the world, with special reference to Europe, the Americas and the Caribbean and South East Asia.
Peter Dent is currently Head of the Department of Real Estate and Construction. He is a fellow of the Royal Institution of Chartered Surveyors and a member of the Society of Property Researchers. His research interests include real estate valuation methodologies for both market and non-market property assets, commercial office occupier needs and corporate real estate strategies. In addition to leading and teaching on modules in the Department and has been invited speaker on programmes run at the University of Reading and The Wilson Centre, Cambridge University where he contributed to the corporate real estate module on their postgraduate programme.

He has helped to set up and run real estate programmes in Bulgaria, Singapore and Hong Kong. He has also been involved in research projects internationally. He was the UK delegate for Commission 7 of the International Federation of Surveyors, where he has been involved in international work on land markets. He has worked on a project sponsored jointly by the RICS and the Polish government on mass appraisal of real estate for taxation purposes. He has also been involved in sponsored work for AMEC Developments, the National Audit Office, the Guy Bigwood Trust and several major surveying firms.

Prof. Tim Dixon is the Director of Oxford Institute for Sustainable Development. He was formerly Director of Research at The College of Estate Management, Reading, where he worked from 1986-2005. Prior to this, he was Research Fellow in IT Applications in Dept. of Land Management, University of Reading (1984-1986) and a surveyor in the Inland Revenue VO (1981-1986).

He is a chartered surveyor and member of the Editorial Board of the Journal of Property Investment and Finance, the Journal of Property Management, the Journal of Building Appraisal and Journal of Real Estate Portfolio Management, a member of the Advisory Board for Local Economy, and a member of the review panel of the RICS Research Paper Series. He is a member of the IPF, SPR, ILT and NACORE in the UK, and ARES and ULI in the USA. He is a member of the EPSRC Infrastructure and Environment Strategic Advisory Team and was a member of the RICS Research Policy Committee from 2004-2006. He is also a trained RICS APC Assessor and a member of the Institute for Learning and Teaching. He is also a member of the advisory Board for SEEDA’s South East Excellence Group.

He has written widely on the subject of IT applications in property and has acted as property adviser to the National Audit Office. He is interested in the impact of information technology on the built environment and he has recently completed work on major funded research projects concerned with the impact of new technology on real estate and property markets. He is a regular contributor to professional journals such as Estates Gazette and he is a regular columnist with Newzeye’s ‘Property Forecast’. He has recently co-authored a book in the Blackwell’s Real Estate Issues Series entitled ‘Technology, Real Estate and the New Economy’.

Continued over...
He has worked on collaborative research projects with UK and overseas academics and practitioners, and co-led the successful 2003 bid to EPSRC for a £1.8m, 4 year programme of research into brownfield issues (SUBR:IM (http://www.subrim.org.uk/) in which Oxford Brookes is a key partner. He is Principal Investigator on two projects in this consortium: ‘The Role of the Development Industry in Brownfield Regeneration’ and ‘Climate Change and Pollutant Linkages’, and has given interviews on BBC local radio in connection with the research.

His research interests include:

• Sustainable urban development and brownfield issues
• The valuation/appraisal of contaminated land
• The role of private sector investment and development in urban regeneration
• The impact of new technologies on commercial property and real estate markets

In connection with this research agenda, he has carried out funded research for a variety of organisations, including Office of Deputy Prime Minister (and DTLR); Joseph Rowntree Foundation; British Property Federation; RICS; Foundation for Built Environment; British Council of Shopping Centres, British Council for Offices, as well as the private sector.

Andrew Fairbairn

is a Chartered Surveyor, a Senior Lecturer at Oxford Brookes University and the Research Director at FICA (Forum for International Commercial Arbitration). He is a real estate consultant in private practice, specialising in formulating advice within the context of his client’s broader business objectives rather than merely focusing on the property issues. He has a range of clients including private investors, property companies, charities, businesses and a number of prominent firms within the motor racing industry. With FICA he is an invited observer on Working Group II (Arbitration) at the United Nations Convention on International Trade and Law (UNCITRAL). A member of the Investment Property Forum, he is currently sitting on a working group considering the regulatory role of the FSA as it relates to the property profession.
Prof. Nick French

joins the Department of Real Estate & Construction as Professor of Real Estate from 1 September 2006. He was course Director of MSc Real Estate at The University of Reading, where he worked from 1990-2006. Prior to this, he worked as a Senior Surveyor with Hampshire County Council (1988-1990 and 1984-1986) and as a Lecturer at City University in London (1986-1988).

In 2005, Nick was awarded the Donaldsons Fellowship in Commercial Property. In his role, Nick works closely with his colleagues at Donaldsons in writing papers, presenting conference papers and developing a research agenda for the property profession.

He is also Editor of the award winning Journal of Property Investment & Finance and is an editorial board member for the Journal of Property Research and the Journal of Real Estate Literature. He is a member of the CoreNet and ERES in the UK/Europe and AREUEA and ARES in the USA. Nick is a member of the Royal Institution of Chartered Surveyors (RICS) and serves on the Securitisation and Secured Lending group which is a subcommittee of the Appraisal and Valuation Standards Board (AVSB).

Previously, he was a member of the joint RICS/Investment Property Forum on Calculation of Worth. He was also the principal coordinator (and author of the resulting information papers) to consider and address the issues highlighted by the Mallinson Report in 1994.

Nick is founder member of the European Real Estate Society and held the post of Executive Director until 1997. He is currently on the main committee with special responsibility for coordinating prizes and establishing an ERES journal.

He has written widely on the subject of valuation and has, in the past, advised the Bank of England, the Royal Bank of Scotland and the Office of the Deputy Prime Minister (ODPM) on a wide range of property related matters. His principal research interests are:

**Local Authority Property Management:** following a successful series of lectures around the country in 2005/2006 to Local Authority valuers and property managers, it is clear that the public sector is looking for more guidance on good practice. The 2002 RICS report “Whose Property is it anyway?” (co-authored by Nick French) has become a mini-bible for many LA valuers.

**Pricing of Leases without Comparison:** it has become clear that commercial renting is slow to take onboard the Government proposals concerning the Code for Commercial Leases, and in particular the suggestion to provide a menu of prices and options. Nick is developing a pricing model that looks at the use of a simple probability based model to price space.

**International Accounting Standards and Global Valuation Standards:** the business community is going through a significant period of change when considering the valuation of assets in company accounts. Questions relating to historic or current cost accounting are intermingled with the suggestion that IFRSs will become the principal basis of accounting practice within the next 5 years. This research is looking at the uncertainty pertaining to this process and suggests a best practice guide for the valuation of property under IFRSs.

**Bank Lending:** Through his involvement with the RICS, he has been instrumental in liaising with the banking community to identify the appropriate basis of valuation for commercial bank lending. Initially, this resulted in the removal of the definitions of ERP and ERRP from the RICS’ Appraisal & Valuation Standards (Red Book) and is now trying to counter the imposition of European Mortgage Lending Value (a German concept) in the UK. He is now working with a colleague in Austria to try to illustrate that EMLV is NOT a valuation but is a misplaced risk assessment.

Other research interests include:

- Valuation and Uncertainty
- Development Appraisals and Feasibility Analysis
- Corporate Real Estate Management
Richard Grover

is a Chartered Surveyor and economist. Before becoming Assistant Dean in the School of Built Environment at Oxford Brookes University, he was a lecturer in property economics and property valuations. He has undertaken a number of projects on the newly emerging private land markets in Eastern Europe, particularly in Bulgaria, Romania, and Russia. These have been undertaken for a variety of clients including the World Bank, Food and Agriculture Organisation of the United Nations, and the governments of the United Kingdom, Romania, and the Russian Federation. He has produced publications for a number of bodies including CIRIA, the RICS, and the United Nations Economic Commission for Europe.

Dr. Ramin Keivani

is currently the research coordinator for the ILM research group. He is an urban development specialist with a wide range of interests in comparative urban research particularly impact of globalisation on land markets and urban development in developing and transition economies. Other areas of his interest include urban competitiveness, urban regeneration, international land and housing policy and construction in developing countries. He is currently Director of studies for 2 PhD scholars.

Dr. Keivani has managed several research projects including ESRC and RICS funded work and provided research and consultancy services in a number of countries including Iran, United Arab Emirates, Singapore, Brazil, Hungary, the Czech Republic and Poland.

He is co-author of a book on housing policy in developing countries and has published a number of book chapters and papers on globalisation and urban development as well as land markets and housing policy in leading international journals including Urban Studies, Environment and Planning, Progress in Planning, Journal of Property Research, CITIES, Urban Technology, Habitat International and others. Ramin Keivani is a member of the review board of the RICS Research Series Papers.
Dr. Esra Kurul

trained as an architect in Turkey. She specialises in the management of (complex) projects, conservation of the built environment and management of knowledge as a source of competitive advantage. Her research interests include project processes, regeneration and re-use of architectural heritage and sustainability in the built environment. She has spent over ten years researching different aspects of the built environment both in the UK and in Turkey.

She is currently working on the dynamics of creating and sharing knowledge across social networks of integrated project teams, and on learning from practice. Her PhD was founded on the principle of achieving sustainability in the built environment through re-use and adaptation of existing (listed) buildings. Her interest in managing complex projects emanated from her PhD research. As part of her O’Regan Enterprise Fellowship, Esra refined her ideas on the relationship between managing complexity and achieving sustainability with a view to providing consultancy services within the built environment. She is also co-supervising three PhD students.

Dr. Kurul is keen to develop opportunities for collaborative research with the industry both nationally and internationally. She is actively seeking funding from institutions such as the EU, EPSRC and the DTI. Presenting her work at high-profile international conferences is one of the means through which Esra expands her international network.

Dr. Kurul is a member of the Institute for Historic Building Conservation (IHBC).

Dr. Noriko Otsuka

joined ILM as a post doctoral research associate on the EPSRC project: Knowledge creation capability and absorptive capacity of integrated project teams in the construction industry.

Dr. Otsuka has 10 years of work experience in the Japanese construction industry, working for Takenaka Corporation. She started as a quantity surveyor in the Estimation Department and became an assistant architect six years later. During her last two years with Takenaka, she was the project manager for a £20 million mixed-use project. Coupled with her practical experience, she has research experience in examining the relationships between stakeholders in town centre regeneration and their social networks. Her PhD focused on the current contributions and potential of Town Centre Management (TCM) in urban regeneration in the context of English town and city centres. Her area of research interest is the impact of management processes, urban policies and socio-economic constitutes of locations on design and sustainability of urban centres. She is a member of the Urban Design Group.
David Shiers

is the Director of Studies in the Department of Real Estate and Construction. His research interests include the property investment implications of sustainable development, occupier demand for ‘green’ buildings and the environmental impact of building materials.


David has co-edited a special Property and the Environment edition of the journal Construction Management & Economics (with Professor Anthony Lavers) and has contributed to many other publications including Property Management, Property Review and Facilities. He is co-author of the undergraduate text book ‘Sustainable Property Development’ (with Miles Keeping). He is also a reviewer and academic referee for Blackwell Science and CME. He was a visiting Research Scholar at Nuffield College, University of Oxford in 2002.

David is currently collaborating with BRE on the publication of a fourth edition of ‘Green Guide’, a version of which is planned to form part of the National Building Specification (NBS). He is a member of the International Working Commission on Sustainable Construction, CIB W-100: The Environmental Assessment of Buildings.

Dr. Claire Roberts

is a part time lecturer in real estate investment. Her recently completed PhD explored the property investment decision-making processes of institutional investors across three European countries. Her areas of expertise are behavioural research and social constructionism, and socially responsible property investment.
Vivienne Spurge joined Oxford Brookes University in November 1999, having worked in commercial private practice for 20 years, in both London and Oxford. She is a part time Principal Lecturer in the Department of Real Estate & Construction, specialising in the fields of property management and professional practice.

Her current areas of research interest are focussed around the implications of broadband technology upon the commercial property market. She has published articles relating to various aspects of broadband technology in Property Management and the Pacific Rim Real Estate Journal. She was awarded the RICS ‘Blue Skies’ prize for her paper presented to the Pacific Rim Real Estate Society Conference in 2001.

She is currently an External Examiner to the University of Portsmouth, an Assessor for the RICS APC and a member of the Royal Agricultural College Advisory Board.

Dr. Sally Sims is a lecturer in Real Estate and Construction. Her PhD focused on the impact of HVOTLs on residential house values in the UK using a multimethod approach towards research. Dr Sims’ area of expertise is in the use of hedonic modelling and survey based techniques to establish the impact of environmental features on property and land values.

Recently completed projects include an RICS funded project into wind-farms, client based research on rural exception sites and an analysis of the real versus perceived impact on house values from the presence of overhead electricity lines. Her research continues to focus on quantifying the impact of detrimental environmental conditions on property values with particular interest in mobile phone base stations and wind turbines. She is a member of the Stakeholders Advisory Group on EMF (SAGE) who is looking at the possibility of introducing the precautionary principle with regard to building homes near high voltage overhead power lines.

Published works include journal articles in Urban Studies and The Australian Property Journal.
Dr. Mike Stubbs

Dr. Stubbs' research area has principally developed around the development control dimension of land use planning, including conservation area legislation, planning appeal methods, planning obligations and judicial fairness in decision making. His Ph.D work involved an examination of Alternative Dispute Resolution in the planning sphere and in particular the application of mediation. Subsequent publications have featured in Town Planning Review, Journal of Planning & Environment Law, Journal of Environmental Planning & Management, International Planning Studies and Planning Practise and Research. More recently he has pursued work on the consequences of car free urban development on urban design (published in Journal of Urban Design) and on the development of an appraisal system for sustainability in the historic environment (published in Planning Practise and Research). Dr. Stubbs has supervised one PhD to completion and examined two (at Brookes and University of Cambridge). Currently he is pursuing work on the value of open space in urban growth strategies. This work is being produced jointly with The National Trust. Since 2003 he has worked part time for the National Trust as a Land Use Adviser. Dr. Stubbs is a co-opted member of the Chilterns Area of Outstanding Natural Beauty (AONB) Planning Committee, a member of the London Historic Environment Forum (chaired by English Heritage) and research member of Heritage Link (a forum of environmental NGOs).

Prof. Joe Tah

joined the Department of Real Estate and Construction as Professor in Project Management from May 2007. Prior to this, he was Professor of Construction Information Technology and Associate Head of School of the Built Environment at Salford University. His research interests are in the general areas of construction management and advanced information technology. He has extensive experience in the application of artificial intelligence and distributed computing techniques to systems for managing large-scale projects and extended enterprises in the construction and related industries. He has been a principal and co-investigator on many projects funded by the Engineering and Physical Sciences Research Council (EPSRC), the European Commission (EC), the Department for Trade and Industry (DTI), and the British Council. He is currently a co-investigator in the multi-university EPSRC funded (EP/E019900/1) RIGHT project on the application of simulation tools in Healthcare and the multi-university EPSRC funded SURegen (EP/F007213/1) project on developing an integrated decision support system for sustainable urban regeneration.

He has published over 100 refereed articles and co-authored a textbook on "strategic management applied to international construction" published by Thomas Telford. He is currently serving on the editorial boards of the International Journal of Architectural Engineering and Design Management and The Built and Human Environment Review. He is a long standing member of the peer review college of the Engineering and Physical Sciences Research Council (EPSRC) and is an expert evaluator and reviewer for the European Commission. He is a member of the Chartered Institute of Building (CIOB) and is on its Innovation and Research Committee.

He has undertaken several funded knowledge transfer initiatives involving the re-engineering of business processes and the development and implementation of innovations in ICT in various construction companies. He represents Higher Education on the South East Construction Skills Forum. He has provided consultancy and advisory services to UK companies, the European Commission, the UK Government, and Governments in developing countries.

His current research interests include:
• Collaborative supply networks for procurement and delivery of projects;
• Risk analysis and management (project, enterprise, and sustainability risks);
• Virtual prototyping of offsite manufactured buildings and sustainable urban environments; and
• Application of artificial intelligence, semantic web, NGOs).
Nigel Walker

is a Fellow of the Royal Institution of Chartered Surveyors. He has over 30 years experience in real estate higher education and practice in the UK and internationally, including China, Hong Kong and the South Pacific islands. He has been involved in research in China, Southern Africa, Bulgaria and Fiji as well as well in the UK.

His primary current research interests are in real estate markets in developing countries and real estate professional training programmes in emerging economies. He has also undertaken consultancy for companies, universities and professional organisations, including leading landscape architecture practices in China, the British Landscape Institute and Cambridge International Land Institute. He has held a number of visiting real estate academic positions in several countries and is currently a Visiting Professor in Real Estate at Renmin University of China in Beijing.

Brian Wood

is a Chartered Architect, Construction Manager, a Surveyor and a Fellow of the Chartered Institute of Building; he is also a member of the British Institute of Facilities Management. His interests are wide and include the whole life of buildings from inception and design through to use and reuse, with specialist interests in defects and maintenance and how these impact on sustainability.

Brian has won and managed many large consultancy projects both before joining Brookes and since. These have included the production and implementation of 5 and 10 year programmes of planned maintenance and improvement of building stocks for substantial public sector clients across the UK. He has also undertaken research work in relation to construction skills development regionally and nationally; he represents Higher Education on the South East Construction Skills Forum, is a member of Construction Skills Observatory, and is Chair of the Southern Construction Careers Group.

He is author of the book ‘Building Care’ which challenges the prevailing ‘Planned Preventive Maintenance’ paradigm, and has published papers on innovative approaches to maintenance and to construction education. He has delivered papers, including invited contributions, at a number of international conferences and symposia, in countries as diverse as Australia, Bulgaria, Canada, Finland, Hungary, Italy, New Zealand, Singapore and South Africa.
Xu Ye

is a Chartered Surveyor and recently became a lecturer in the department of Real Estate and Construction. She first joined the department as a research student in 2003 working on investors’ risk attitudes. She is now in the final stage of her doctoral studies. With over six years’ research and advisory experience in the property industry as well as the academic filed, Ye has gained a wide knowledge of quantitative modeling and property market research. Her main research interest is studying the linkages between different property investment vehicles and financial markets. She specialises in the areas of risk management, behavioural finance, decision making theory, as well as emerging property market research.
Dr. Robert Beale

is an associate member of the ILM group and based at the School of Technology. He has conducted research into pallet-rack and scaffold structures and published over 50 papers in refereed journals and conferences. He has published over 40 departmental and other reports with reference to consultancy undertaken in scaffolding and racking structures as well as Engineering Mathematics. He has supervised 7 PhD students to completion and is currently supervising an additional 5.

In 1983-4 Dr. Beale undertook a sabbatical year becoming a visiting associate professor in the department of Computer Science and Statistics at California Polytechnic State University.

In 2002, due to the closure of Civil Engineering within the University he transferred into the School of Technology where he is now the Regional Director with responsibility of overseeing all the School's UK franchised courses. Dr. Beale is an associate research staff at the Department of Real Estate and Construction.

He has also been involved nationally with the development of syllabuses for Engineering Mathematics under the umbrella of the Institution of Civil Engineers.

Dr. Mike Godley

is an associate member of the ILM group and based at the Department of Architecture. Dr. Godley retired from full-time employment as Acting Head of the School of Construction and Earth Sciences in 1998 having taught for 20 years in the Department of Civil Engineering. During all this period he maintained close contact with industry generating funds to support research by providing consultancy services for Industry, mainly in the field of specialist structural testing.

His field of interest is the design and analysis of structures which are especially susceptible to structural instability, most notably scaffolding structures, both proprietary systems and tube and fitting scaffolds, and storage structures for warehouses fabricated from cold formed steel sections.

Since retirement he has run his own successful consultancy, Slender Structures Ltd. and maintains his involvement in research through the supervision, with Rob Beale, of three research students.

He is the joint author of a Code of Practice for the Design of Steel Storage Structures for Europe published by the Federation Europeenne de la Manutention (FEM) which is now in process of translation into a Euronorm, and the author of the Guide to good practice for scaffolding with Tubes and Fittings published by the National Access and Scaffolding Confederation (NASC) in the UK.
Professor Anthony Lavers read law at University College, London where he won the Joseph Hellyer Prize. After an M.Phil in Planning Law at the University of Southampton, he taught at Portsmouth Polytechnic and for three years at the National University of Singapore, where he obtained his Ph.D. Following a year's advanced research as Visiting Scholar at Wolfson College, Cambridge, Anthony Lavers taught at Oxford Brookes University (Reader in Law 1990, Professor of Law 1995) until 2001, when he joined the London office of US law firm White & Case. A barrister (Lincoln's Inn), he also holds a part-time appointment as Director of Research at Keating Chambers.

Anthony Lavers was Co-ordinator of the Commission on Post-Construction Liability of the International Council for Building Research and edited the Commission’s 19-country comparative study (E&FN, Spon, London 1999) which received a Commendation in the Chartered Institute of Building Literary Awards. He has also co-authored Construction Law in Singapore and Malaysia (Butterworths Asia), a Legal Guide to the Professional Liability of Architects, Expert Witness in the RICS Books Case in Point Series and has published over 80 articles in legal, construction and property journals. Professor Lavers has delivered conference papers, seminars and lectures in 25 countries worldwide. External examiner on Master’s degrees at Reading, Portsmouth and the University of Central England, Anthony Lavers has examined nine doctorates (at Reading, Manchester, King’s College London, Loughborough, SOAS, Oxford Brookes and UCE) and supervised four completed Ph.Ds.

Professor Lavers was elected Chairman of the Society of Construction Law 2004-2006. He was awarded a D.Litt by the University of Portsmouth in 2006.

Professor Angus McIntosh joined King Sturge as Head of Research in 2000 having worked for several international property consultants, as well for the public sector and a private sector investment house.

As a specialist Land Economist and a Chartered Surveyor, Prof. McIntosh has been involved with a wide range of international consultancy assignments over the last 30 years and has produced a number of forward looking research publications.

Across Europe Angus McIntosh wrote the first definitive market reports for the RICS on Prague, Budapest and Warsaw in the early 1990s, was involved in the first in-depth analysis of the investment performance of French Shopping Centres, and wrote feasibility reports for projects in Spain, Portugal and Germany.

In recent years, he has produced reports such as Global Real Estate Scenarios, the European Industrial Property Report and Global Trends in Industrial Parks using Case Studies from around the world, including Asia-Pacific - the most in-depth reports ever produced on this market. He has also produced reports on the European Airports market.

Prof. McIntosh was appointed in 2004 to the Lyons Implementation Board of the Office of Government Commerce. His latest book, joint author with Dr. Sarah Sayce and Prof. Anthony Walker, is entitled “Building Sustainability in the Balance” published by Estates Gazette. His recent King Sturge reports include “Property Sustainability Matters – caveat emptor” and “European Real Estate Scenarios – Nirvana or Nemesis.”
Professor Paul McNamara has a first class honours degree from the University of St Andrews and a PhD from the University of Edinburgh – both in Geography. In 1992, he became an Associate of the (UK) Institute of Investment Management and Research – now incorporated in UK SIP.

Prof. McNamara is currently Director, Head of Property Research, PruPIM Ltd. He is also a Board Director and member of the Executive Management Team of PruPIM.

He is responsible for the overall direction of property research in PruPIM. This includes assessing the prospective returns to the constituent elements of UK and overseas property markets in which PruPIM invests, and advising on investment strategy for client property investment funds.

In recent years, Prof. McNamara has been centrally involved in the development of an index-based property derivatives market in the UK, which is beginning to gain momentum currently. His other area of interest is the promotion of sustainability and climate change issues to the property investment community.

Paul McNamara is Vice Chairman of the Investment Property Forum (IPF) - and a leading member of its Management Board and Research Committee. He assumes the Chairmanship of IPF in Summer 2005.

Prof. McNamara is the Honorary President (and a Fellow) of the UK Society of Property Researchers (SPR). He has recently become a non-executive director of Investment Property Databank Holdings Ltd and is the current Chairman of the Institutional Investors Group on Climate Change (IIGCC) – Property Workstream.

Finally, Paul McNamara was awarded the OBE for ‘services to the property industry’ in Summer 2003.

Professor Mikhail Soloviev graduated from the Moscow Aviation Institute in 1963 as engineer in automatic control. From the start of his career he has worked closely with the Russian Academy of Sciences Institutes in the areas of automatic control and management information systems. During 1960-70s he was credited with 13 registered inventions for control systems of nuclear power plants. He gained his PhD (1971) in automatic control in the Russian Academy of Sciences Institute for Control Sciences (RASICS). After 1972 he concentrated on the management of energy and building branches of the Soviet economy in institutes of the Ministry of Energy, USSR GosPlan, and International Institute for Management Sciences. He was awarded the Dr (Technology) Sciences degree in management information systems in the RASICS (1988).

Since the early 1990s he has collaborated with UK universities in areas of corporate and real estate management. During the last decade he was coordinator of a number of British-Russian projects in property valuation and investments, granted by RICS and UK Government bodies. The collaboration stimulated his academician activity. Between 1993-1996 he was a professor of the State Jewish Maimonid University and organized the 1st real estate graduates in Russia. Since 1997 he has been a professor of the Higher School of Economics and Privatisation & Business Academy (Moscow). He is an author of more than hundred articles, monographs and reports, including the 1st Russian textbook for real estate management (2001, co-author - Richard Grover). Since 1996 he has been a visiting professor at Oxford Brookes University (Department of Real Estate Management) and takes part in joint researches and lecturing for the MSc Real Estate Management and Real Estate International.
PuBlicatIons

In the review period ILM staff, visiting professors and visiting fellows have continued their prolific work in published output. This has included 56 refereed journal papers, books, chapters and reports as well as 37 conference papers and 6 bespoke CPD presentations. These are outlined in appendices A, B and C.

ILM Working Papers

During the course of their work, ILM staff also produce working papers, research reports, conference papers and articles in the property and construction press. These are available online at: http://www.brookes.ac.uk/schools/be/oisd/ilm/workingpapers/index.html

The copyright of each working paper remains with the author. If you wish to quote from or cite any paper please contact the appropriate author for permission unless otherwise stated. In some cases the working papers are pre-publication versions of papers already submitted to journals and book chapters. A more recent version of the paper, therefore, may have been published elsewhere. In such cases reference should be made to the published version.

AWARDS AND PEER RECOGNITION

Many of our staff have distinguished themselves in their work and have peer recognition through journal editorship, members of editorial boards and membership of policy and advisory panels for the UK government and professional bodies and major research councils. In addition, however, our staff have achieved special recognition during the review period through awards, chairing conferences and invitations for keynote contributions. Here we can note:

• Sally Sims and Peter Dent receiving the Appraisal Journal Prize for best paper on valuation at the European Real Estate Society Conference (2007) for their paper titled Property Stigma: Just the latest fashion.

• Tim Dixon (with Yasmin Pocock and Mike Waters) receiving the Highly Commended Emerald Literati Award (2007) for their...
paper titled An analysis of the UK development industry’s role in brown field regeneration, Journal of Property Investment and Finance, 24 (6), pp 521-541

- Tim Dixon invited as Special Panel Member: ‘Sustainability and investments – A burden or a new opportunity for the real-estate industry?’ EXPO REAL (2007) Munich, October 8th.


- Rob Beale elected as the Chairman of the 6th International Conference on Steel and Aluminium Structures (ICSAS’07), St Catherine’s College, Oxford, July 24th-27th.

LINKING RESEARCH AND TEACHING

Linking research, learning and teaching has been a traditional strength of REC since the very beginning. The Department prides itself in its ability to maintain this tradition. This link is enhanced through the consolidation of its research activities under the OISD-ILM brand and the synergetic opportunities that it offers. This is again reflected in the teaching and practical relevance of much of our research efforts particularly in international market studies, sustainability and valuation related topics that continue to inform and update our teaching in both Batchelor and Masters programmes.

In this context the Department of Real Estate and Construction and the ILM research group look forward to working with the new Centre for Excellence in Teaching and Learning (CETL) in “Research as Learning: The Reinvention Centre for Undergraduate Research” which was launched in the School in September 2005. Dr Esra Kurul, for example, has obtained funding from the Reinvention Centre to encourage students to get involved in undergraduate research by providing an opportunity to conduct a small scale research project which will have immediate practical application.

FOSTERING RESEARCH LINKS WITH THE INDUSTRY

ILM research is closely linked to both real estate and construction industry as well as major international organisations such as the UN and World Bank. We have expanded our industry links through funded research work, development of joint proposals and direct involvement of industry partners in the research process. Prime examples of these have already been noted in:

- Funded research for the Investment Property Forum
- Funded research for the RICS and Shui On (major Hong Kong real estate development firm)
- Funded consultancy work for Cottsway Housing Association and Oxfordshire Rural Housing Partnership
- Funded consultancy work for UNFAO and World Bank
- Involvement of Balfour Beatty and EC Harris in EPSRC funded research project on knowledge management in the construction industry
- Joint work being conducted with BRE on updating the Green Specifications

These activities put us in a strong position for consolidating our links with both national and international firms and professional institutions in the coming year.

APPLIED RESEARCH WITH REAL WORLD SIGNIFICANCE

Our work has direct impact on public policy and private practice both at national and international levels. This is perhaps best captured in the comments on our recent projects for the RICS. In respect of our report on “the role of property markets in supporting economic and social development in China” Mr. See Lian Ong (Chairman of RICS Asia Pacific) writes:

“This report by Oxford Brookes University provides a clear analysis of the processes driving property markets in China to date and puts forward a clear set of recommendations as to how this can be sustained, supporting the harmonious economic and social development of China. I welcome and
commend this report and I am sure that the recommendations that it puts forward can be of great value in supporting the future development of the Chinese economy and society.”

Commenting on “a green profession: RICS members and the sustainability agenda” Stephen Brown Head of Research at RICS says:

“With issues of sustainability and sustainable development becoming an increasingly important factor in the global political and business agendas, this report is an invaluable document for the industry and will contribute towards our aspirations of creating a sustainable future. Committed RICS faculties in the area of planning and development, facilities management, environment, minerals and waste management and rural and project management around the world can become key leaders and essential players in the battle against climate change within the built environment worldwide.”

CPD ACTIVITIES

ILM staff are actively involved in providing Continued Professional Development (CPD) services to the professional community. These activities are directly linked to, and draw on, our research expertise in sustainable property and urban development, valuation, international real estate and knowledge management in construction. They involve bespoke training programmes and presentations at both external venues and special occasional events held at Brookes. Our staff also undertake Assessment of Professional Competence (APC) for the RICS and RTPI. For more detail please see appendices B and C on conference presentations and bespoke CPD programmes.

DOCTORAL RESEARCH PROGRAMME

In the review period the ILM group expanded its Doctoral programme with addition of a new research student working on property led urban Development in China. In the review period we had 7 core and associated Mphil/PhD students. We also have offered new PhD places to a further 3 students who will commence their work in October 2007.

Here we renew our call to alumni and other interested parties to support our mission for fostering research through our PhD programme. The Department has been running an occasional Research Studentship since 1999. The studentship is for £12,000 per annum and covers the fees for the three-year PhD study period. Funding constraints, however, has limited our support to only one student per three-year study duration.

Please contact Peter Dent (prdent@brookes.ac.uk) or Ramin Keivani (rkeivani@brookes.ac.uk) to discuss your possible contribution and suggestions.
cold-formed steel members which are attached to one another by hooked joints. The members are very slender and are semi-rigidly connected. The erection of steel racks is very straightforward and easy. Thus, the main cost involved lies in the cost of the material itself.

The use of steel racking in the industry is growing. In order to make full use of the floor space, many types of racking have been introduced. Racking does not only vary in application but also in height. As of today, racking of as high as 26m has been built to fulfil the demand of such industry. Many researches have been carried out to study the static performance of these racking but few have been done to investigate collapse mechanisms. Although industry is reluctant to admit to collapses, a few major and minor collapses have been reported. These collapses have caused financial loss and even death. Thus it is important to study and find ways to rectify this problem.

This project will look into the mechanisms involved in the collapse of steel racking. Attention will be paid to the collapses initiated by the collision of forklift trucks. This usually happens at the bottom region of uprights ranging from around 0.4m to 1.0m from the ground. It is also believed that the damage is most likely done in system with wide aisles where conventional forklift trucks are expected to turn in order to access to the goods in the row. A model will be built by using the LUSAS software and the result will be calibrated by experiments. The model will be used to study collapse mechanisms. It is also the aim of this study to propose an alternative system, which could arrest the collapse. The solution should be one that is simple to apply and cost effective.

Lei Zhou

Supervisors: Dr. Ramin Keivani, Dr. Esra Kurul, Mr. Miles Keeping
Research title: Sustainable Private Finance Initiative

This research is going to investigate a modern public procurement system – the Private Finance Initiative, to identify how it could be an efficient tool for government to achieve sustainable development. PFI is a procurement mechanism by which the public sector contracts to purchase quality services on a long term basis so as to take

CURRENT PHD/MPHIL RESEARCH

Xu Ye

Supervisors: Mr. Peter Dent, Prof. John Raftery, Prof. Paul McNamara
Research title: Risk Attitudes of Foreign Investors in Emerging Property Markets: A Case Study of Shanghai 1990 - 2005

Over the past decades, property has been widely accepted as an investment asset together with bond and shares. Investors have also noticed the diversification benefit of including property in their portfolios. Since risk lies at the very heart of capital investment decisions, there is a growing trend to measure the uncertainty of expected returns. Based on the portfolio theory introduced by Markowitz in the 1950s, researchers have developed several models, like CAPM and APT, to quantify risks related to investment in capital markets. These models are now treated as the cornerstones of modern finance and form the foundation for capital market theory.

Property markets have been influenced by the growth in the use of quantitative techniques in capital markets. Whilst the research in this area is still lagging behind work done in capital markets, even fewer studies have been carried out in emerging property markets. Therefore, the overall aim of the project is to examine how capital market theory performs in emerging property markets such as Shanghai. This involves an examination to identify to what extent it is relevant in such a market. The reasons for choosing Shanghai for investigation are not only because of the current rapid economy growth in the city, but also because a large amount of new capital is invested in the property sector every year. The study will critically review the development of capital market theory first, then its application to the Shanghai property market.

Adeline Ng Ling Ying

Supervisors: Dr. Rob Beale, Dr. Mike Godley
Research title: Dynamic Collapse of Steel Rack Structures

Steel racking has been widely used in the warehouse industry for storing goods. Unlike other conventional steel framing, this type of structure uses mainly
advantage of private sector management skills incentives by having private finance at risk. PFI is now an essential item of the government’s Public Private Partnership toolkit. At the UK level, 570 projects have been signed from 1997 to 2003, at a capital cost of £52 billion and expected to be worth about £25.5 billion within the next three years. In theory, PFI could offer a number of opportunities to deliver sustainability, for example, whole life costing as the core of Value for Money. The nature of long term contract provides clients a chance to set up the sustainable goals. Unitary payment mechanism and output performance stimulate contractors to innovate in more efficient design and management in the public estate. However, in practice, there is a lack of systematic framework to indicate the implementation of sustainability issues into PFI projects. Unawareness of the sustainability benefits and lack of decision making tools often cause avoiding sustainability in the PFI early stage.

This research aims to develop a sustainability framework for PFI procurement system and its practices. The aim will be achieved through the following objectives:

- To qualify the current sustainable performance level in PFI projects in the UK
- To identify the principles and issues in the sustainable PFI framework and evaluate its benefits and risks
- To design a sustainable PFI in order to assist the key stakeholders making decision in sustainability

The main research approaches employed are questionnaire survey and case study. Personal interview and Focus group study will be used as extra data collecting method for this research.

Austin Ngombe

Supervisors: Dr. Ramin Keivani, Dr. Mike Stubbs

Research title: Privatisation of land rights and its implications on rural economies: the case of Zambia

As noted in copious volumes of literature, land is the most important resource any nation can have. This is true especially for the rural economies whose livelihoods are anchored on (small scale) agriculture. To most rural communities, land is indeed everything; it is a source of wealth, a symbolic issue, a factor of production and as such, proper management of the resource is essential for a stable society, good governance, poverty alleviation, economic growth and, eventually, sustainable development. Gender inclusiveness in access to land is also evolving rapidly. Traditionally, women are disadvantaged in terms of access to land. Their access is mediated through relations with men and yet the women account for 80 – 90% of rural agricultural production.

In Zambia, 2/3 of the poor people live in rural areas. Of these, 88% live below the nationally-defined poverty line. For this reason, and in response to the global campaign for secure land tenure as championed for by, among others, the World Bank, DFID, UN Habitat, Agenda 21, the Zambian government in 1995 passed land policy that aimed at privatising customary land rights. The policy was enshrined in the Lands Act of 1995, which provided for conversion of customary into formal tenure. This was in line with the popular belief that customary tenure encumbers commercialisation and security of tenure, and is an obstacle to land market in that it does not promote mortgage finance. One of the anticipated benefits of the Act therefore, was an enhancement of the rural economy through increased private investment. Has the Zambia’s rural economy improved following the enactment of the 1995 Lands Act? The research revolves around this thematic issue.

Aim

The aim of this research is to conduct a comprehensive analysis of the implications of government’s (land) policy interventions on rural economies of Zambia.

Objectives

- To analyse the structure of Zambia’s land tenure in general and indigenous/customary tenure in particular and identify key dimensions of rural economies
- To explore issues underpinning gender inclusiveness in land access
To investigate the Zambian traditional institutions that promote gender exclusiveness in land access

To assess the relationship (over time) between privatisation of customary land rights and levels of rural poverty/economy

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**Xu Yunqing**

**Supervisors:** Dr. Ramin Keivani, Dr. Albert Cao

**Research title:** The property-led urban development in China’s transition to market economy

This research aims to study the current property-led urban development model in China in terms of sustainable growth objectives. It aims to propose appropriate reforms within the property industry for generating integral urban development based on efficiency, equity and sustainability. Urban (re)development has become an eye-catching issue in China and is shifting from being government-backed into privately funded and driven by property development fuelled by a prosperous property market since the mid 1990s. Moreover, under pressures of globalization and urban competition, the property-led urban development in Chinese cities has been increasingly extended to place promotion, image enhancement and function transformation through market-friendly policies in recent years. Property development could often alter the urban master plan and in some situations in fact precede urban plans. Resulting changes in urban governance, partnerships and urban development at such an unprecedented scale and speed are by all means profound but their impact has been scarcely explored. With rapid transformation of urban landscape and economic growth, problems in cities such as large scale loss of peripheral agricultural land, over building and chaotic development, negative impact on building conservation and environmental protection as well as social inequality and polarization has become increasingly severe and urgent.

The research goal is to be achieved through five objectives:

- To review academic literature on urban development and growth of real estate industry (property-led development model in particular) in UK and other countries

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**Hassan Irtaza**

**Supervisors:** Dr. Rob Beale, Dr. Mike Godley

**Research title:** Experimental and computational determination of wind loads on access scaffold.

Tubular steel scaffolding has been widely used in the building construction in UK. Scaffold structures are often slender and constructed of elements with semi-rigid connections. Many researches have been carried out to study the performance of scaffolds such as linear analysis, buckling analysis etc. However, scaffold failures regularly occur, often being attributed to wind action. The present study on the ‘Experimental and Computational Determination Wind Loads on Access Scaffold’ is being undertaken to quantify the effects of wind on scaffolds. It will require model scaffolds to be analysed computationally using CFD (computational fluid dynamics) followed by testing models in wind tunnels. The study will determine the pressure loads due to wind that real scaffolds are subjected to taking into account the influence of the building to which the scaffold is attached and the effects of different opening conditions. Limited research into wind loads on scaffolds has been done in the past which lead to current codes being based upon the effects of wind loads on permanent structures. The objective of this research is to obtain revised wind load pressures for scaffolds for inclusion in new/
revised design codes and to obtain an understanding of the influence of the attached structure on wind loads.

Mouaiad Al Omari

**Supervisors:** Mr. Peter Dent, Mr. Richard Grover

**Research title:** *Land administration and land management in the Middle East Region: reliable and unreliable land valuation systems and their effects – the case of Jordan*

The role of formal real estate markets in the process of economic development in developing countries not exactly understood. The researcher thinks that the lack of understanding is main result of the absence of reliable information on real estate values.

This research aims to investigate the advantages and disadvantages of implementing land valuation system (LVS) in situations in which values can be unreliable, and how they affect land administration and land management in developing countries especially in Jordan.

The main objectives of this research:

1. To find out the opportunities and constraints of reliable and unreliable land valuation systems in relation to land administration and land management.
2. To review the theoretical basis of the existing land valuation concepts.
3. To ascertain to what extent land valuers and decision makers in Jordan are aware of the supposed advantages of implementing reliable land valuation system.
4. To find out if there are significant similarities LVS in developed countries and Jordan.
5. To develop a basis framework for understanding the relationship between reliable LVS and economic development.

This research is intended to develop a coherent framework for analysis that may be applied to similar studies in other developing countries, particularly in the Middle East region. In addition to the hypothesised advantages of implementing a reliable land valuation system, this study will be of benefit to Jordanian policy makers in respect of understanding the importance of land administration and land management education and facilitating having real estate academic education as one of the main studies in the technical universities curriculum.

In Jordan, no one has raised the question of economic development studies with special reference to reliable land valuation systems. This study will fill a gap and open the door for new research ideas in the area of land administration and land management.

**PHD STUDIES COMMENCING OCTOBER 2007**

Fonbeyin Henry Abanda

**Supervisors:** Prof. Joe Tah, Dr. Esra Kurul

**Research title:** *Knowledge modelling of emerging technologies for sustainable housing development*

The global quest for sustainability in the exploitation of resources and the need for carbon foot-print reduction are generating a huge amount of innovations and knowledge on sustainable building technologies. Unfortunately, these innovations and knowledge are not often available to users in accessible forms. Interestingly Semantic Web technologies, the next generation of the Web technologies can allow information to be represented on the Web in a format that can be read and used by software agents to make intelligent reasoning and deductions.

This study aims to investigate the extent to which an easily accessible knowledge-base can be developed in the form of a Semantic Web portal for emerging sustainable building technologies. This should allow practitioners and the general public to develop a better understanding of the wide range of emerging technologies and to be able to query and make the right choices for use on projects.

The main objectives of this research are to: establish the state-of-the-art of emerging innovations in sustainable building technologies and ontology-driven semantic web development; use the above to develop an ontology-driven knowledge base; and use the knowledge-base to develop and validate a sustainable building...
A widely accepted knowledge engineering methodology will be used to develop the knowledge-base and the semantic web portal. The ontology-driven knowledge base would empower professionals in the construction field and enhance their ability to adopt emerging sustainable building technologies and best practices in housing development.

Joseph Oluwafemi Adigun

Supervisors: Prof. Joe Tah, Dr. Esra Kurul
Research title: Design and analysis of construction supply chain networks: a theoretical approach.

A construction project is delivered through a complex network of multi-disciplinary specialists with a high degree of inter-dependence amongst their activities. The management of this network is complicated by many factors which include the isolation of multiple disparate disciplines through separation of design and construction, and multi-tier sub-contracting. This has historically led to many problems including poor delivery to time, cost, and quality, the “claims consciousness” of many contractors/suppliers, poor trading relations between parties, etc. The industry is experiencing unprecedented change and dynamic conditions resulting from clients demanding shorter cycle times, higher quality, better value-for-money and sustainability. Increasingly, these demands cannot be effectively met by isolated change to specific organizational units, but instead depend critically on the relationships and interdependencies among different organizations or organizational units. This has led to the emergence of partnering and other forms of collaborative working in construction. Supply Chain Management (SCM) practices that have evolved in other industry sectors, such as the automotive industry, are increasingly being considered for adoption in the construction industry.

However, the construction industry has yet to embrace the wider adoption of SCM best practices. These practices are being recommended for adoption uncritically and there are many who argue that the wholesale adoption of practices that have evolved from other industries will not work in construction. Existing research in this area is largely descriptive and focused on cultural change initiatives aimed at eliminating barriers to adoption. There is a paucity of research that seeks to develop a theoretical understanding of construction supply chain networks leading to an understanding of the underlying structures that underpin such networks.

This research aims to develop the theoretical underpinning for supply chain networks and implementing this in a simulation tool. The objectives of the research work are to: identify suitable theories that can be used to underpin the elements of adaptive construction supply chain networks; develop a theoretical framework for construction supply chain networks based on the theories identified; and develop and test a simulation tool based on the theoretical framework developed. It is hoped that this will facilitate the modelling of alternative configurations of construction supply chain networks, facilitating the exploration of alternative “what if” scenarios allowing high performing supply chain network configurations to be identified for different contexts and project conditions.

Drusilla Taylor-Lewis

Supervisors: Prof. Joe Tah, Dr. Esra Kurul
Research title: The socio-economic survival of the minority groups within the construction industry in the UK.

It is widely recognised that small and medium-sized enterprises (SMEs - having less than 50 staff) are an important group within the construction industry as they make up 99.8% of the United Kingdom’s construction firms and deliver some 59% of total output. A considerable amount of research has been carried out on SMEs over the last decade. This indicates that they face many challenges ranging from lack of competitiveness to lack of appropriate skills and various solutions have been suggested to address these challenges. None of these studies have highlighted or investigated the extent to which their recommendations would be beneficial or appropriate to the sub–groups of Black, Asian and Minority Enterprises, (BAMEs), women and the disabled that form part of the SMEs. Furthermore,
the lack of comprehensive databases of these sub-groups on the registers of professional organisations excludes such groups from effective participation in the industry and stifles their economic growth.

The lack of documented information about more than one sub-group is quite alarming, as within these groups could be identified a very highly specialised sub-group which plays a significant role in supporting the economy, especially as it has been documented that ethnic minority groups form nine-percent of all graduates in the United Kingdom. The need for these sub-groups to be identified and studied is important to the UK economy. This research focuses on minority-led Micro Enterprises, those that have less than ten employees, and have a turnover of less than two million Euros within the United Kingdom.

The aim of this research is to identify the factors that affect the growth of BAME Micro Enterprises and to make recommendations to facilitate the effective participation of these sub-groups in the construction industry. The objectives of this research are to: establish the extent to which the differences between the BAME-led Micro Enterprises and other sub-groups impact on their survival and growth within the construction industry; establish the factors that act as enablers and barriers in the operational environment of these sub-groups; and make recommendations on specific measures that can improve the growth of these sub-groups and establish a best practice guide to be used as a reference for the construction industry.

Henry Wei Chin

**Supervisors:** Mr. Peter Dent, Prof. Paul McNamara, Prof. Anthony Lavers

**Research title:** The factors determining office investment markets in South East Asian cities: with reference to Hong Kong, Singapore, Taipei, Bangkok and Kuala Lumpur

This thesis is the result of four years’ intensive study of office investment markets in South-East Asia. The research topic stemmed from the rapid progress in office markets in the region during the early 1990s, and the upheaval resulting from the institutional problems of 1997. Most of the past research on the determinants of office investment markets has concentrated on European and North America cities. South-East Asia and its cities have largely been ignored. The few studies that have been conducted rely mainly on econometric modelling. However, opportunities in the user and investor office markets are influenced by non-econometric factors such as the nature and evolution of the markets and their institutional environment, but these have largely been ignored in previous studies. This research examines office markets by combining a demand and supply econometric framework and institutional analysis.

The thesis begins with a presentation of the relevant literature and a critical examination of this branch of knowledge: including a review of forecasting and institutional studies. Subsequently the drivers of office investment markets are investigated using both quantitative and qualitative methods. Five South-East Asian prime office markets are used as case studies: Singapore, Hong Kong, Taipei, Kuala Lumpur and Bangkok. This research initially assesses the maturity of office markets in each city. A time-series multiple regression analysis is then carried out, using office rental data and macroeconomic data to identify the relationship between office rental values and macroeconomic variables in the five cities. The results of a questionnaire survey and face-to-face interviews are then presented, which were conducted with property researchers in the region,
and from these, the institutional factors which have an impact on office investment market performance are identified.

The study concludes that the performance of office investment markets (office rental values) can be modelled using macroeconomic factors in the cases of mature cities, such as Singapore and Hong Kong. However, office investment market performance can only partly be explained by macroeconomic factors in emergent markets (Kuala Lumpur, Taipei and Bangkok).

The results of the econometric analysis show that demand side variables are the main drivers for office investment market performance in South-East Asian cities. Institutional factors also have an impact on office investment market performance. This research shows that legal and economic institutional factors and political stability are considered to have the most influence on office investment market performance in South-East Asian cities, especially in Kuala Lumpur, Taipei, and Bangkok (emergent markets), though the effects cannot be quantified in modelling studies. As regards Singapore and Hong Kong (both mature markets), econometric modelling results perform reasonably well, and institutional factors have little influence on office investment market performance in those cities.

Wei received the 2004 ARES prize for International Real Estate Investment/Portfolio Management for his PhD based paper “The Determinants of the Office Investment Market in Southeast Asian Cities: The cases of Hong Kong, Singapore, Taipei, Kuala Lumpur and Bangkok.”

Sally Sims

**Supervisors:** Mr. Peter Dent, Dr. Mike Stubbs, Prof. Anthony Lavers

**Research title:** *The Impact of High Voltage Overhead Transmission Lines (HVOTLs) on the Value of Residential Property in the UK*

This thesis investigates the impact of electricity distribution equipment on the value of residential units in the UK and adopts a multimethod approach towards data gathering, using both qualitative and quantitative research paradigms. Buyers’ and valuers’ perceptions of the impact of a HVOTL on value are obtained using postal surveys and interviews. Additional information is gathered from the electricity utilities, residential developers and government planning departments.

Using a case study a hedonic pricing methodology (to enable the relationship between a HVOTL and house price to be explored), selling price data and asking price data from three locations were gathered and analysed. Regression analysis established that a HVOTL near a residential unit does have an impact on house price, although this impact is not always negative.

The results from three case studies, the opinion surveys and the interviews are compared, indicating that opinion surveys may result in an underestimation of the impact of a HVOTL on selling price and, by contrast, appraisers may overestimate the negative impact of HVOTLs on asking price when marketing a house. The results suggest reliance on one method may prove misleading and therefore the use of a multimethod approach towards data collection may improve the reliability of findings.

**CONCLUDING REMARKS**

The ILM research group has had major successes during the year ending July 2007. We have secured major funding from European Investment Bank, RICS and the industry and supported our staff to undertake high quality and innovative research in important areas of work to both the industry and academic community. We are pioneers and recognised authorities in sustainability research in real estate covering a wide range of topical issues of increasing concern to the industry. In addition the international dimension of our work has put us at the forefront of research and consultancy services in the urban development and real estate markets in transition and developing economies.

We are proactive in maintaining this momentum. We rely on the dedication of our existing staff and are recruiting prominent and high quality new staff to consolidate and widen our range of expertise and develop new research horizons. We look forward to challenges ahead with a track record of cutting edge research and high quality consultancy services.
A. Review Period New Publications


French, N. (2007). 2 Chapters in Monograph Real Estate Valuation and Accounting, commissioned by EBS, Germany.


**B. Review Period Conference Presentations**


Dixon, T. (2007) A Fourth Dimension in Sustainable Urban Regeneration? Governance Structures, Sustainability and CSR in the Public and Private Sectors, ESRC/NERC Transdisciplinary Seminar Series, Number 5: Sustainable Communities and Environmental Inequalities, School of Geography, Earth and Environmental Sciences (GEES) University of Birmingham, 26th April


C. Review Period Bespoke CPD Programmes


