

## Environment Statement (REF5)

<b>Institution:</b> Lancaster University
<b>Unit of Assessment:</b> 19 Business and Management Studies (Main Panel C)
<b>1. Overview</b>

After achieving outstanding ratings in the previous four RAEs, the research activity of the Lancaster University Management School (LUMS) has continued to develop and grow in a sustainable manner. The School has a collegial, diverse and vibrant research culture. Table 1 provides a brief overview of some quantitative evidence of this vitality and sustainability.

**TABLE 1: Key indicators for the REF2014 review period: evidence of sustainability**

Indicators	RAE 1996	RAE 2001	RAE 2008	REF 2014
Research income (£m)	1.97	1.53	9.25	13.54
PhDs awarded	56	95	154	169
Peer-reviewed publications	598	755	1139	2934
Peer-reviewed publications per capita	8.6	10.6	10.00	15.77
Citations per capita (in REF period)	8.3	28.6	39.9	66.6
Research quality profile	5*	5*	4/3* (75%)	

**Key indicators for the REF2014 review period: evidence of vitality**

Editorial roles in 4* and 3* journals (positions as Editor or Associate Editor)	111 (57)
Keynote presentations at leading conferences/research workshops	120
Research seminars hosted in LUMS (with visiting international scholars)	625 (200)
Financial Times (FT) publications in REF period	53
Sabbaticals taken in the REF period (in person months)	462.5

The School is organised into eight academic departments and ten multi-disciplinary research centres. Developing and supporting a collegial, vital and sustainable research environment is a collective responsibility, and is guided by the departmental Research Directors and the Associate Dean for Research, who reports to the Dean and the University's Pro-Vice Chancellor for Research. The Research Directors represent the departments/research groups on the School Research Committee and act as a link for policy formulation and implementation across LUMS. Research activities are supported by the Research Development and Support Office (RDSO).

## 2. Research Strategy

*Strategic vision: LUMS is a collegial, multidisciplinary and innovative management research institution that aspires to be world-leading in all its research activities by developing, recruiting and retaining world-leading researchers, by embedding research into every aspect of its activities and by achieving significant impact for all its stakeholders.*

LUMS has built a 20-year reputation for research of exceptional quality, as shown in Table 1. The School's long-term commitment to developing research of the highest quality, as encapsulated in its strategic vision above, has encouraged a research culture with four distinctive features: (1) it is deeply embedded, all core activities being research-led; (2) it is theoretically informed, and LUMS is widely recognised for theoretical innovations; (3) it is distinctly multi/interdisciplinary; (4) it is collegial in a significant and tangible way. The School's strategic vision and culture is realised through the following objectives, which continue and build on those referenced in RAE 2008:

- Recruiting, developing, and retaining world-class international faculty at all levels
- Developing and maintaining diverse research income streams
- Maintaining and developing integrated and vibrant PhD programmes
- Developing multidisciplinary research partnerships for mutual and sustainable research impact

These objectives are implemented primarily through the LUMS departmental and research centre structures, which provide the peer communities where individual researchers are mentored and supported. However, because the School's research is distinctly multidisciplinary, the contribution to different areas of scholarly work is often built upon the work of staff from several academic departments and faculties. As such we will present the research contribution and strategy of LUMS in terms of significant areas of focus and contribution, rather than our organisational structures.

## 2.1 Operational Research and Operations Management

- World-leading research group in Operational Research – five-year impact factor for lead researchers of 11.01 (against 6.13 for the top 10% of journals in Business & Mgt).
- The group published 297 journal articles, 15 books and 50 book chapters in REF period.
- It co-directs two EPSRC doctoral training centres (DTCs) in addition to NATCOR.

The *operational research* (OR) and *operations management* (OM) groups have made significant investments in new staff, and together form one of the largest groups of its type in the world, with 33 Category A staff currently in post, of whom 28 (84%) are included in RA2, clear evidence of a supportive research environment. Significant investment in PhD research means that the group has around 45 students registered at any one time. During the REF period the research group gained EPSRC funding for the STOR-i DTC (joint with Lancaster Statistics colleagues), has collaborated in the HighWire DTC and directs NATCOR, the EPSRC-funded national taught course centre for OR doctoral students. Glazebrook also directs the £13m EPSRC-funded LANCS initiative, working with colleagues in Nottingham, Cardiff and Southampton. The STOR-i DTC was one of only three EPSRC DTCs that was renewed in 2013.

In line with EPSRC priorities, the group has been strengthened since RAE 2008 by the recruitment of Ehr Gott (Auckland), Nelson (joint with Northwestern, to work with STOR-i students), Wallace (joint with Bergen) and Zografos (Athens) as professors, and Jacko, Kaparis, Kourentzes, Pang, Pavlidis, Petropoulos and Yildirim as early-career researchers (ECRs). This shows a sustainable balance between established researchers and ECRs.

The OR group's theoretical research makes world-leading contributions to the mathematical foundations of optimisation, forecasting and data mining, simulation methods and stochastic processes. Optimisation research encompasses integer programming (Letchford and Kaparis), stochastic optimisation (Glazebrook and Kirkbride) and multi-objective optimisation (Ehr Gott). Forecasting research focuses on method choice, including work in climate forecasting (Fildes and Kourentzes), supply chains (Fildes and Crone) and pattern recognition (Pavlidis). Pidd remains active in discrete event simulation, supported by Onggo, who is developing approaches to conceptual modelling for large-scale simulations. Worthington's work on discrete time queues is highly regarded. Applied work continues in healthcare (Pidd, Onggo and Worthington), energy management (Wallace), inventory control (Glazebrook, Kirkbride, Pang and Kaparis), time-dependent queues (Worthington), plus newer work in public sector performance (Pidd) and green logistics (Eglese and Zografos).

In the *OM group*, the implementation and commercialisation of Workload Control in make-to-order manufacturing is a major focus for Hendry and Stevenson, with significant international collaborations in the Netherlands, USA and Portugal. Spring's AIM Fellowship, focused on dissemination, included a Manufacturing Masterclass in conjunction with the Manufacturing Institute and an Innovation Workshop in the LUMS Innovation For Growth programme. Busby's work on risk and safety has investigated organisational failure and safety culture in managing operational risk; two new research grants have been secured (British Academy and HSE) and three others completed (including the Leverhulme Trust grant, 2007-8). New OM areas under development include socially responsible sourcing (offshoring/backshoring) and supply chains of counterfeit products. The arrival of Zografos has strengthened logistics and supply chain research, particularly in airport planning and the movement of hazardous materials.

## 2.2 People, Work and Organisation

- Internationally recognised for the use of interdisciplinary theoretical perspectives that critically examine contemporary challenges facing people at work.
- The group published 136 journal articles, 35 books and 100 book chapters.

- Lead researchers have a five-year impact factor of 9.79 (against 6.13 for the top 10% of journals in Business & Management).
- Innovative engagement with practice through the Centre for Performance-led HR.

Building on foundations laid in the early 2000s in the Departments of Organisation, Work and Technology, and Management Learning and Leadership, a dynamic stream of research on *People, Work and Organisation* has been achieved – with 20 staff included in RA2. The distinctive nature of Lancaster's work, namely its interdisciplinary and theoretically informed approach, has been sustained and is enabled in part by very significant links to Lancaster's other three faculties. For instance, work on *organisational wellbeing* (Cartwright, Collins, Cooper, Gatrell and Quick) builds on close collaborations between LUMS and the Faculties of Arts & Social Sciences and Health & Medicine, and has led to world-leading research on *stress, job satisfaction and work/life balance*. Lancaster's long history of *critical studies of work and organisation* also continues (Cooke, Costea, Crump, Dale, Faulconbridge, McCabe and Thomas) and is cultivated by ongoing links to the Faculties of Arts & Social Sciences and Science & Technology. This stream of research has made important contributions to debates on graduate employment, professional work, embodiment and organisation in the workplace.

Also significant is *critical research on leadership* which highlights the importance of power and identity for understanding leadership dynamics. Current research includes: leadership dialectics (Collinson), leadership for sustainability (Marshall, Allen); women's leadership (Stead, Gatrell, Marshall), public sector leadership (O'Reilly, Collinson) and leadership/followership identity dynamics (Leitch, Collinson, Knights). Critical research on leadership is supported at Lancaster by the inter-disciplinary and international *Leadership* journal, co-edited at LUMS since its inception in 2005, and by the associated annual International Studying Leadership Conference. Critical gender research on leadership is also supported by the Academy for Women, Diversity and Leadership which complements Lancaster's established reputation for gender studies in organizations (Gatrell, Stead, Collinson, Dale). This was further strengthened by the appointment of Powell and Knights. Significant editorial roles in *Gender, Work and Organization* are indicative. Combining continuity of leadership with investment at both professorial and more junior levels has been crucial. Professorial leadership is provided by Collinson, Cooke, Cooper, Sparrow (all present for RAE 2008) Cartwright, Leitch, Marshall, McCabe and West (new appointments since RAE 2008), with Kempster acting as the Director of Leadership Development. Non-professorial appointments since RAE 2008 include Collins, Dale, Faulconbridge, Greasley, Huang and Thomas.

Demonstrating strength, research income in this area includes high-profile competitive awards from the ESRC (project grants and fellowships) and charities (e.g., the British Academy), providing the bedrock for critical research. Funding from the public sector (e.g., the Cabinet Office, the Welsh Government, NHS) and private sector (e.g., Tesco, Unilever, BAE Systems, IBM, Fujitsu and Royal Mail) ensures that collaborative agendas are also developed with industry. The impact of this stream of work is demonstrated by the fact that LUMS is the only UK management school to have three of its senior staff included in HR Magazine's 'Top 15 Most Influential UK Thinkers' (Cooper, Sparrow and West).

### **2.3 Accounting, Finance, Governance and Banking**

- Internationally recognised for research in the economic analysis of corporate financial reporting, financial econometrics and market pricing, and corporate governance.
- Group published 177 journal articles, 8 books and 30 book chapters in the REF period.
- High level of professional recognition for lead researchers (Otley, Peasnell and Beattie).
- Access to one of the most comprehensive suites of financial databases in the UK.

Activity in this area covers the two core disciplines of accounting and finance and two interdisciplinary areas (corporate governance and banking) that have developed from work since RAE 2008. Strategic investments include three new professorial appointments to lead key areas (Beattie, Conyon and Ioannidou) and new staff appointments in all four research areas. Twenty-four faculty are included in RA2.

*Accounting.* LUMS has a long-established reputation for its research in financial reporting, dating back to the pioneering efforts of Stamp in the 1970s. Beattie is now leading research on policy issues, supported by the independently funded *International Centre for Research in Accounting*.

Two inter-related areas where LUMS continues to show great strength are capital-markets-based accounting research, led by O'Hanlon, Peasnell and Young, and quality of accounting information, led by Young and Beattie. Work in both areas has been greatly enhanced by four newly recruited ECRs: Chircop, Choi, Novotny-Farkas and Vergauwe. Emerging themes that draw on these two areas are accounting and bank regulation (Peasnell, O'Hanlon, Chircop, Lubberink, Novotny-Farkas, Panaretou), in collaboration with colleagues in the USA and Europe, and disclosure and narrative reporting (Beattie, Young, Chircop, Vergauwe). Young is working in two major interdisciplinary research teams that are applying innovative computer-based natural language processing techniques to various social phenomena, including, in Young's case, corporate financial disclosures, supported by two new ESRC grants totalling approximately £3.8m.

*Finance.* The focus here is broadly on two major areas: financial econometrics and market pricing, and corporate finance and investment theory. A common feature is an emphasis on measuring and understanding risk. Lancaster has a long-standing international reputation for financial econometrics based on Stephen Taylor's pioneering contributions to the modelling of financial time series, and includes volatility modelling and risk density estimation (S. Taylor, Shackleton) and modelling trading behaviour (S. Nolte, I. Nolte). Research on corporate finance and investment theory includes: a £242k ESRC-funded study of the investment and financing policies of companies and households (Pawlina); determinants of corporate loan conditions and default premia (Ioannidou, Groba); finance applications of real options theory (Shackleton, Pawlina); performance of various kinds of investment vehicles (Hass, Akimov).

*Corporate Governance and Banking.* LUMS is developing an international reputation for its work on various aspects of corporate governance. Leadership in this area is provided by Conyon who is making major contributions to the understanding of the economic, historical and social factors that underlie cross-country differences in CEO pay and governance arrangements. This is complemented by work on the connections between executive contract design and corporate payout policy (Young); internal control weaknesses (Choi); information timeliness (Zhang), supported by a £91k Leverhulme grant; and the workings of audit committees (Beattie). A new chair (Ioannidou) has been created to lead research on the financial economics of banking. Ioannidou has made major contributions to understanding of the lending process, including the roles of deposit insurance on bank risk-taking, conditions imposed by banks when firms switch banks and tests of theories of collateral. Shackleton has done important work with Shiller (2013 Nobel laureate from Yale) and others on continuous workout mortgages.

#### **2.4 Entrepreneurship and Innovation**

- Research-led business engagement and high levels of impact (ESRC impact prize).
- Internationally leading Centre for Family Business Research (Chua, De Massis).
- Group published 131 journal articles, 9 books and 44 book chapters in the REF period.
- Lead researchers have a five-year impact factor of 9.79 (against 6.13 for the top 10% of journals in Business & Management).

Research on entrepreneurship and innovation developed in LUMS during the 2000s, with entrepreneurship included as a distinct subject area in the 2008 RAE, when work on the development of *entrepreneurial learning and entrepreneurial networks* was especially highlighted. Research within this group is distinctive for its focus on historical context and methodologies (Rose) and the ways in which research is defined by process (Hamilton, Jack, Leitch). Building on this work is a more recent focus on *absorptive capacity and innovation networks*, especially in SMEs (Freel, Jack). The *Centre for Family Business* is a research hub for faculty and PhD students studying entrepreneurship and innovation in family businesses with key themes being: entrepreneurial learning (Leitch, Hamilton); social networks and long-term perspectives (Discua Cruz, Jack); intra-family succession and family business goals (De Massis); family business performance and governance (Chua, Runyan). Research by the 11 staff submitted within the group has been published in leading journals such as *Entrepreneurship Theory and Practice*, *Research Policy*, *Journal of Business Venturing*, and *Business History*.

Building and sustaining a distinctive outward-facing research culture in entrepreneurship and innovation has led to several research projects on successful knowledge exchange. From 2007 this was reinforced by five ESRC grants, designed to improve business engagement by deepening understanding of successful university–business interaction. (Leitch, Rose, Jack). This

engagement oriented research was recognised in the *ESRC Celebrating Impact Awards* for Business in May 2013. Another important way in which innovation research is linked to practice is through the *Big Innovation Centre*, established by The Work Foundation and Lancaster University. The Centre's remit is to make the UK a global open innovation hub. It brings together some of the world's leading companies, research institutions and policy makers, and is directed by LUMS.

## 2.5 Economics

- Internationally recognised for research in education and labour economics, applied macroeconomics, and industrial organisation (with a 5 year impact factor of 7.88).
- Published 279 journal articles, 2 books and 34 book chapters and 105 WP in REF period
- Direct contribution to public policy making, both in the UK and overseas, in matters relating to education, lotteries, gambling, and child support

There has been significant investment in the Economics research group with 24 staff being submitted as opposed to the 8 which would have been submitted in RAE2008 (using REF criteria). The group has, nevertheless, been significant since the formation of the University with Andrews and Brunner, early editors of the *Journal of Industrial Economics*, as the founding professors. This work was sustained by Rothschild (retired) and De Silva (ex-Texas) with a focus on procurement mechanisms and interdisciplinary work on environmental economics. An area of continuing strength is sports economics led by Simmons (editor of *International Journal of Sport Finance*, President of the North American Association of Sports Economists, and advisor to the National Audit Office on the Olympic Games). Closely associated is the work of Walker and Peel on gambling and lotteries (advisors to the House of Commons Select Committee for Culture, Media and Sport on the future of the lottery). *Microeconomic theory* was further strengthened with a chair appointment (Matros) and an ECR (Sen Gupta) focused on game theory. Further enhancements include the recruitment of two ECRs (Bracco and Troumpounis), on public and political economy and Zanardi, with work on elections and voting on trade-related issues, and contributions on trade liberalisation and antidumping policies. Zanardi's recent appointment strengthens the research on trade and international economics by Soo and Snowden.

The group has a long-standing international reputation in education and *labour economics*. Taylor (retired) and Johnes founded *Education Economics* in 1993, with Bradley and Green as successive editors. Notable work has included: evaluation of specialist schools, funded by the Nuffield (Green, Bradley, Taylor); the efficiency of UK HEIs for the Department of Business, Innovation and Skills (BIS); and work on education and personnel (Heywood), funded by the ESRC, among others. In addition, Tsionas, a new chair in econometrics, adds to existing research in efficiency measurement in both education and health. Research on returns to education (funded by BIS), family structure, and applied aspects of public policy issues has continued with the work of Ian Walker (listed as one of the top 2% of economists worldwide) who is also editor-in-chief of *Labour Economics*. The group has also diversified into *health economics* through collaboration with the University's Department of Health Research. Examples include: Walker's contribution to the ALICE-RAP EU Framework 7 project on addiction; a new ESRC-funded project on policy, weather and health (Walker, Navarro); and several ESRC CASE/MRC-funded PhD students.

The *applied macroeconomics and financial markets* group was created with the arrival in 2004 of Peel (top 2% most highly cited economists in the world and co-editor of the *Applied Economics* suite of journals). Research by Peel, Paya, Pavlidis and Izzeldin has led to significant advances in the application and development of nonlinear time series econometrics to issues of international economics, monetary policy, financial markets, forecasting and high-frequency data analysis. The group also hosts the *Gulf One Lancaster Centre for Economic Research*, which is making leading contributions to Islamic finance and risk failure. This research group has recently developed its macro theory capacity through ECR appointments (Motta, Rossi, Tayler, Bai).

## 2.6 Networks, Knowledge and Strategy

- Internationally leading tradition in the study of networks, knowledge and strategy with a 5 year impact factor for the lead researchers of 24.23
- An innovative transdisciplinary group of 23 researchers from six departments.
- Published 214 journal articles, 55 book chapters and 22 books within the REF period.

A steadily growing number of researchers (Araujo, Easton, Jack, Mouzas, Runyan, Chakrabarti, Dada, Mason, Spring, Gilchrist, Hopkinson, Lenney) have developed novel transdisciplinary perspectives on business relationships, supply chains, market practices and social networks, which are theoretically informed by the *network approach* and share strong international links with the [IMP](#) (a research community of 300 network scholars). Currently LUMS has had one of the largest and most vital groups of organisational network researchers in Europe, with 16 staff included in RA2, and with representation on the editorial boards of the *Journal of Management Studies*, *Industrial Marketing Management*, and *Journal of Business of Business Venturing*. Research has been facilitated by two AIM Fellowships, two KTP programmes, ESRC grants and a multidisciplinary EPSRC Cross-Disciplinary Interfaces Programme.

Committed to critiquing and improving learning processes, researchers (Easterby-Smith, Bogolyubov, Hayes, Fahy, Friesl, Hodgson, Mouzas, Mason) have also developed world-leading research in *organisational knowledge development*. This group was strengthened by the appointment of Lyles, a leading scholar in organisational learning. A 2008 *Journal of Management Studies* special issue on inter-organisational knowledge transfer, edited by Easterby-Smith and Lyles, is widely cited (263 citations). An article by Lyles received the Decade Award from the *Journal of International Business Studies*. Theoretically informed work on organisational change and dynamic capabilities (Easterby-Smith, Friesl) includes two *British Journal of Management* papers which are also the most highly cited papers in 2008/9 in BJM.

Developing novel perspectives on *strategy*, a group of researchers (Johnson, Vaara) have developed the internationally recognised approach of 'strategy as practice'. Johnson was one of the conveners of the foundational EIASM conference and one of the co-editors of the first special Issue on 'strategy as practice' in the *Journal of Management Studies*. Recent ECR appointments in the Centre for Strategic Management continue to develop on this work (Friesl, Kwon, Fahy).

## 2.7 Technology, Systems and Organisation

- One of the largest research groups in Europe focusing on critical and social-science-based study of technology and organisation.
- Published 105 journal articles, 34 book chapters and 9 books in the REF period.
- Work cited by the European Parliament, US Senate and US Federal Trade Commission.

The Technology, Systems and Organisation research group consists of a highly transdisciplinary group, with a strong social science foundation, undertaking innovative research in the intersection between management, information systems, technology, and organisation studies. The group has two main areas of focus: critical and social study of technology (Bloomfield, Vurdubakis, Introna, Hayes) and the study of information technology and organisational transformation (Chiasson, Brown, Tarafdar). With 12 active researchers, it is one of the largest groups of its kind in Europe and undoubtedly one of the leading groups globally. It was indexed in all of the School's previous RAE submissions. The work of this group is organised through the *Centre for the Study of Technology and Organisation*, which has on-going collaborations with STS scholars in the Faculty of Arts & Social Sciences (such as Suchman and McKenzie). The senior members have all published in leading journals in the field. At least 80% of the group's work is published in 4\* and 3\* journals. In the REF period the work of the lead researchers in the group has attracted 404 citations – representing 7.32 citations per output – which is above the 6.13 for the top 10% of journals in Business & Management. Senior members of the group have held editorial positions in leading journals in the field such as *MIS Quarterly* (Introna, Chiasson), *ISR* (Introna), *Information and Organisation* (Chiasson) and *Organization Studies* (Bloomfield).

The international impact of work done by the group is exemplified by the fact that a major study on facial recognition systems was cited by the European Parliament, the US Senate and the US Federal Trade Commission. Work on the political nature of plagiarism detection systems has also impacted upon both policy and practice at 32 higher education institutions, in the UK and across the world. This impact agenda is also pursued through an active association with the innovative and multidisciplinary EPSRC-funded Highwire DTC (which has strong industry partnerships).

## 2.8 Management and Society

- Extensive research concentration in critical transdisciplinary management research.
- Long history of critical management studies going back at least 30 years.

- Published 111 journal articles, 38 book chapters and 13 books in the REF period.
- Engagement with emerging issues beyond the managerial agenda such as ethics, governance, corporate social responsibility and sustainability

The School is known internationally for going beyond the mainstream managerial agenda with its world-leading critical work – work that is generally more difficult to publish, especially in mainstream journals. Indeed, Lancaster has a long history and reputation for critical management studies going back to the work of Reynolds, Burrell, Morgan and Cooper, for example. Such work is central in offering LUMS researchers a broader intellectual canvas that also questions our research agenda critically, and creates many opportunities for wider, multidisciplinary and transdisciplinary collaboration with social science and humanities researchers. Key relevant publications include the work of McCabe on “Strategy-as-Power” and Knights’ critical work on the new public management agenda in academia. Work by Costea, Amiridis, Crump and Gatrell is also very significant in providing a critical perspective on traditional HRM. Another important and related strand is the work on ethics, governance and corporate social responsibility. This work straddles all disciplines of the School such as Marketing (Hogg, Piacentini), Accounting (Otley), HRM (Costea, Crump, Amiridis), Technology (Introna, Chiasson) and Entrepreneurship (Jack).

Also central to the broader LUMS research agenda is the importance of management and organisational history – and history more generally. In the REF period the School published 10 papers in the leading journals in the field (*Business History* and *Management and Organisational History*) from all disciplines in the School. Indicative work includes humans rights (Cooke), technological risk (Vurdubakis), university business engagement (Jack), family business (Rose), and retailing (Alexander). The Management and Society research group is one of the largest in the UK and has been impactful with a five-year impact factor of 2.43 compared with the leading journals in the field of 1.76. Strategically this group is deepening its relationships with the humanities to further enhance its vitality. Indicative of this strategy is the appointment of the philosopher and theologian Hemming, as a joint appointment with the department of Politics, Philosophy and Religion, as well as increasing research collaboration.

## **2.8 LUMS Research Strategy 2020**

Research is, and will continue to be, an integral part of the School’s success. Each research area will continue to have area-specific strategic objectives as well as building on existing processes and achievements. However, we will also prioritise the following research objectives for LUMS as a whole, especially with regard to ensuring sustainability:

- *Develop International Research Networks.* In line with the University strategy, LUMS will be pursuing significant institutional research collaborations with the leading top 100 universities – institutional discussions are already in progress.
- *Double EU Funding.* Historically the School has not actively targeted EU funding opportunities. Given the new RCUK funding climate, this is becoming an important source of funding. The School will acquire expertise and build capacity to effectively target EU funding, focusing particularly on the Horizon2020 programme. LUMS aims to at least double its levels of EU funding by 2020.
- *Support ECR Development.* Pressures on ECRs are increasing significantly. In order to secure the sustainability of the LUMS research culture, LUMS is implementing a mentoring scheme for a further three years beyond probation. The RDSO will continue to develop additional resources and opportunities to support ECRs to publish in world-leading journals.
- *Aiming Higher.* LUMS aims to significantly increase the number of publications in 4\* journals and is setting an ambitious target of 80% of staff who consistently produce research at level 3 and above. Incentive systems are already in place and will be monitored on an on-going basis.

## **3. People**

### **3.1 Staffing strategy and staff development**

Recruiting, developing and retaining world-class international faculty at all levels, and embedding research into all aspects of our organisation and practice are key strategic objectives. To meet these objectives LUMS has developed organisational processes to ensure that academic staff have the time, resources, organisational support and collegial environment necessary to undertake research of excellent quality. This is achieved in a number of specific ways:

- *Dedicated research time* is facilitated through norm-based workload models to ensure that academic staff can devote at least 40% of their time to research. In addition, all academic staff members are entitled to sabbatical leave, the outcomes of which are managed through continual review. In the REF period a total of 462.5 person-months were allocated as sabbaticals, which represent approximately a £1.93m investment in research.
- *Targeted resources and incentives* are provided to support staff research activities. This takes various forms, such as provision of laboratory-type resources, subscriptions to databases and financial support to attend conferences. For example, in Accounting and Finance, and in Economics, a total of £350,000 was made available for subscription to databases in the REF period. Also, all staff have £2,250 p.a. to spend, at their discretion, on conference and research travel – additional funds can be applied for on a case by case basis. Furthermore, to support early work and development of tentative research ideas the School has a pump-priming support budget, primarily for new staff. In the REF period 34 projects were awarded £109.5k of support from this fund. At the University level there is a small grants scheme, and a biennial capital budget for research equipment of approximately £1.4m is also allocated to support exceptional equipment requirements. Research is also incentivised through targeted rewards (workload and budget) for publication in top journals as well as for successful research grants.
- *An embedded research culture* requires not only time, resources and support but also opportunities and skills. New opportunity creation is facilitated through mechanisms such as research seminars, research funding workshops and an annual faculty research conference. Skills are developed through activities such as co-authoring with senior colleagues and focused writing retreats where staff can develop a paper with a writing coach. The success of these processes and initiatives is reflected in a 57.7% increase in per capita output of peer-reviewed publications since RAE 2008, and a 30% increase in papers in leading journals.

A research culture is as good as its emerging base. Strength and sustainability cannot just be ensured by supporting existing staff. The development of early career academics and research staff is fundamental to achieving our strategic objectives.

- Probationers are given a minimum of a 19% reduction in teaching loads (spread flexibly across the first two years) and each is assigned a mentor, whom they meet on a regular basis.
- Applications to the research pump-priming fund by ECRs are prioritised. For example, 79% of those funds were allocated to early career researchers over the REF period.
- Post-probation ECRs continue to have access to a mentor and are also supported via a research development plan (part of their annual personal development review). These plans identify needs in terms of resources, skills and opportunities.
- The support and development of research associates are guaranteed through the School Researcher Charter. The University has also been awarded the European Commission's HR Excellence in Research award in recognition of its implementation of the Concordat to Support the Career Development of Researchers.

Revitalising the research environment on a regular basis is also crucial for ensuring sustainability. To stimulate the research environment we encourage our staff to attend conferences and present their work in the leading fora of their discipline and support them financially to do so. In addition each research group has an active research seminar series which attracts some of the leading scholars in their field. In the REF period LUMS hosted a total of 625 research seminars: 200 of these were by prominent international scholars such as Etienne Wenger (UOC at Irvine), Warren Powell (Princeton), Brian Arthur (Santa Fe Institute); Mary E. Barth (Stanford), Neng Wang (Columbia). If longer and more sustained engagement is required, staff can apply to the School's visiting professor scheme to fund visits by key collaborators (£64k available in the REF period).

Ongoing renewal also happens through key appointments, and the growth of the School has provided many opportunities to strengthen all sub-disciplines and expand in new directions. In our recruitment we have taken a dual approach, balancing appointments of high-potential early-career academics with those of high-level senior staff. More than 50 high-calibre early career appointments have been made, recruited from leading PhD programmes (Columbia, Bath, Zurich, Maastricht, Milan and Warwick). In addition, 18 appointments have been made at chair level: Alexander (Wales) Beattie (Glasgow), Conyon (Wharton), Ioannidou (Tilburg), West (Aston), Walker (Warwick), Matros (South Carolina), De Silva (Texas), Freel (Ottawa), Marshall (Bath), Leitch (Queen's Belfast), Wallace (Hong Kong), Zografos (Athens), Ehrgott (Auckland), Tsionas



(Athens), Tarafdar (Toledo), McCabe (Keele) and Puntoni (Erasmus). This has resulted in a substantial net growth in senior researchers that has strengthened the intellectual leadership of the School's research, specifically in economics, strategic management and management science.

Further evidence of the School's supportive research environment is that several mid-career academics have achieved internal promotions to professor during the REF period: Young (Accounting and Finance); Jack (IEED); Wright, Chiasson and Spring (Management Science), Mouzas and Piacentini (Marketing), Paya and Simmons (Economics) and Faulconbridge (OWT). In addition six colleagues were promoted to Readerships. These internal Chair and Readership promotions represent 36% of the School's senior colleagues. Further evidence of the success of our ongoing staff development and retention process is the fact that the average L/SL tends to stay at Lancaster for 10 years and at Chair level this increases to 15 years. This stability in senior staff is obviously central to sustainability as it reinforces cultural practices and ensures continuity. The School has also made significant efforts to address equality and diversity in its staff profile. Forty-three percent (43%) of academic staff are now international faculty. Some progress has also been made with regard to gender balance. In RAE 2001 two female professors were submitted, in RAE 2008 four. RA2 includes twelve, which represents 18% of all chairs submitted.

### **3.2 Research students**

The excellence of the LUMS doctoral programme is widely recognised and attracts high-quality students from leading international universities, and also from LUMS's own from specialist Masters programmes. Our PhD programme has consistently ranked among the top 10 in the Financial Times list of top PhD programmes across the globe – ranked as part of the MBA ranking. In January 2011, the Financial Times ranked LUMS 5th in Europe for the quality of its doctoral programme, and in 2012 the School came 7th. In the same year it was ranked 2nd in Europe in the 'FT Doctoral Rank'. During the REF period, 169 PhD students graduated. In 2012/13 23 new students registered for the programme, bringing total registrations in LUMS to 192 – giving a ratio of 192 (PGR students) to 163 (FTE Category A staff).

*Funding.* The quality of the PhD programme is secured through competitive funding schemes, such as the LUMS studentships and ESRC/EPSRC studentships, via DTCs. The PhD programme is treated as an investment in the School's research base, so most of its PhD income is returned as scholarships. The LUMS scholarship budget was £382k in 2008/09, rising to £537k in 2012/2013. Additionally, the EPSRC granted £5.4m to support the development of research capacity in operational research at four UK universities (Lancaster, Nottingham, Cardiff and Southampton): this initiative (known as LANCS) is directed at Lancaster. Together with additional support from the other universities, a £13m investment will have been made during the 2008-2013 period.

*Integration.* Students are offered an exceptional range of PhD study options, from specialist research with disciplinary intensity to transdisciplinary research across faculties. Embedding PhD students into the LUMS research culture is central to creating a vital and sustainable research environment. This is achieved by various means: (1) locating PhD students close to their supervisors; (2) integrating students into the existing research seminar series; (3) supporting PhD research conferences, such as the annual cross-faculty and annual multi-institutional PhD research conferences; (4) including PhD students in the annual LUMS research conference; (5) encouraging co-authorship with supervisors – in the REF period 71 joint supervisor/student papers were published; and (6) making funding available to present their work at workshops and conferences.

*Research training* is an important element of developing a supportive research culture. There are four Research Training Pathways and most PhD students will follow one of the three pathways approved by the ESRC and EPSRC (with at least 60 credits of research training). Since RAE 2008 LUMS has also developed a comprehensive series of research training seminars which are open to all PhD students. This is supplemented by more focused support such as regular writing retreats. In terms of methods PhD students also have access to NARTI (Northern Advanced Research Training Initiative) and LUMS is currently establishing a *Centre for Advanced Methods*, led by Jeffrey Edwards (North Carolina), to bolster provision in quantitative methods.

*Doctoral Training Centres:* LUMS is part of the ESRC's new North West Doctoral Training Centre (NWDTC), which provides research training to students at Lancaster University, the University of Liverpool and the University of Manchester. The NWDTC is the UK's largest DTC, providing a

guaranteed 63 new postgraduate studentships per year. This will amount to more than £15m of investment over the next five years. *North West Methods* links with the DTC and provides advanced methodology training.

The STOR-i Doctoral Training Centre is a pioneering DTC with an innovative approach to statistics and operational research – in collaboration with the Department of Mathematics and Statistics. It aims to develop a new generation of researchers capable of making a real impact in both academia and industry. It is backed by £4.3m from the EPSRC and has considerable, committed support from leading industry partners such as BT, Shell, Unilever and the Met Office. Closely associated with this initiative is the National Taught Course Centre in Operational Research (NATCOR). NATCOR is a collaboration between twelve universities to develop and deliver taught courses in operational research to PhD students, and is hosted at LUMS.

LUMS has also invested in the University’s Highwire Doctoral Training Centre, created in 2009. This is a world-class, cross-disciplinary and user-centric DTC. Funded under the EPSRC Digital Economy programme, the Centre is supported by a range of organisations, including AT&T, the BBC, BT, Clifford Chance, CSMTC, HP Labs, Knowledge Partners, Microsoft, MacDonalds, O2 and Sony, plus 20 micro-businesses and SMEs in the North West.

*Employability:* The employability of our PhD students is of vital importance, which is why we place great emphasis on helping students acquire skills in teaching, research and getting published. Many of our PhD graduates have secured academic positions both in the UK (at Bath, Birmingham, Cambridge, Cranfield, Durham, Essex, Exeter, CASS, King’s College London, Lancaster, Liverpool, Leeds, Manchester, Oxford, Sheffield, Southampton, Warwick and York) and tenure-track appointments at Laval, McGill, University College Dublin, Lingnan and Peking.

**4. Income, infrastructure, facilities**

**4.1 Research funding**

For LUMS, research funding is not an output measure but an input measure. It is nevertheless true that without sufficient levels of internal investment and sustained levels of external funding, a vibrant and sustainable research culture is difficult to achieve. The School continues to support its researchers by helping them to develop proposals and write grant applications in order to ensure appropriate research income streams, thus sustaining the funding of high-quality research projects and collaborations. During the REF period support was provided for the submission of 248 proposals for approximately £57.3m. Fifty of these proposals were funded – a success rate of 20%, which is higher than the average for the ESRC (17.2%) and ERC (14.8%) in the review period.

*External funding.* External income from all funding sources since January 2008 totalled £13.54m. If we include funding for PhD programmes (such as the DTCs, £571,400) and for impact-related activities such as HEIF (£1,280,855m in the REF period), total external funding for research and engagement is £15.39m. External research income has come from a number of sources, including ESRC, EPSRC, EU FP6 and 7, UK charities – in particular six British Academy and four Leverhulme Foundation awards – and business and commerce (two KTP awards). In the last RAE, the School improved its relative position in research grant income and was ranked 8th nationally; current HESA data suggests that it is likely to further improve that position. LUMS had seven ESRC/EPSRC fellowships and received large grants for leadership research (CEL\LSIS, Collinson), islamic banking (endowment, Izzledin), working fathers (Big Lottery fund, Gatrell), knowledge and technology transfer (ESRC, Rose), and entrepreneurship (EU, Downs). However, in this REF period we are refocusing our efforts to resource the development of large collaborative research bids such as EU-FP7 and ESRC bi- and trilateral funding calls.

Significant funding for *fellowships* has been received through the ESRC, with Chiasson, Spring and Mason all being awarded a three-year AIM fellowship, Migali a two-year postdoctoral fellowship, Easterby-Smith given several small extension grants as a follow-on to his senior AIM fellowship. Bogolyubov and McKeever were recruited as a result of two ESRC Business Placement Fellowships being awarded to the School in 2010. In November 2012 the School was also awarded two SAMS/ESRC Business Development Fellowships. Finally, the Department of Management Science hosted a Marie Curie Postdoctoral Fellowship in 2009/10 (Fildes/Trapero) and Letchford held a 5-year EPSRC Advanced Research Fellowship from 2006 to 2011.

The Centre for Performance-Led HR has received continued support of £1.3m from leading companies in UK *industry*. Likewise, the Institute of Entrepreneurship and Enterprise Development – which undertakes applied research as part of its business support, consultancy activities and programmes for SMEs – has attracted £16.8m in funding from sources such as the European Regional Development Fund and the European Social Fund. These activities are research-led and an important part of our knowledge transfer and impact strategy.

*Internal funding.* The School is investing significant resources in ensuring its research and research culture is sustained and developed. These include the following:

Research workload allocation (40%)	19,997,388
Sabbaticals	1,938,838
Research incentives (for world-leading outputs)	39,500
Research activity support (travel, etc.)	2,071,623
Research pump-priming scheme/fund	109,500
Visiting professors scheme/fund	64,000
Distinguished visiting professors scheme/fund	300,000
<b>Total internal research investment</b>	<b>£24,347,349</b>

Together with external funding of £13.54m (indicated above), this represents a very significant investment to ensure the vitality and sustainability of our research culture. The School is also developing enhanced processes to ensure the sustainability of our funding streams, such as the creation of a dedicated brokering role to mediate between academics and funding bodies.

#### **4.2 Research infrastructure**

Research is developed and supported within the wider University context. The University Research Support Office develops and supports research through advice, bid support, contract management, post-award administration and audits. The School's Research Development and Support Office functions to develop and support research activity throughout LUMS. It is active in funding bids, as outlined above. However, it also supports research activity in other ways, such as: (1) maintaining the research information system, (2) servicing the faculty research committee and research ethics committee, (3) administering the faculty visiting professor and pump-prime fund, (4) fostering individual scholarship by organising events such as writing retreats, workshops, etc.

Research infrastructure is also being developed and maintained at research group level. For example, in Economics there is a newly created Experimental Economics Laboratory (LExEL) to enable the development of experimental economics research, such as economic decision-making by individuals or groups in a number of carefully controlled environments. In Accounting and Finance a variety of data resources are available, including WRDS, Compustat, CRSP, Datastream, Execucomp, Thomson One Banker, Thomson Research, Extel, Worldscope, InvesText, I/B/E/S, JCF, Perfect Information, Factiva, and NYSE Trade and Quotes (TAQ), giving the group one of the strongest financial database infrastructures in the UK academic sector.

Research is also supported through multi-institutional collaborative infrastructures such as the Northern Advanced Research Training Initiative (NARTI), a network of leading research-based university business and management schools in the North of England of which LUMS is a member. For the past six years NARTI (and LUMS, as part of this network) has offered excellent advanced training and symposia for PhD students, enabling them also to network across institutions. Similarly North West Methods, which links with the DTCs and includes Manchester and Liverpool Universities, provides a common forum for training and development of research methods.

The governance of research ethics is also an important element of our sustainable research infrastructure and culture. The University is a member of the UK Research Integrity Office which advises on issues of ethics and research integrity. All the research by staff and research students which involves human subjects is subject to review by the University research ethics committee. The University also supports the development of research ethics through training (for example through the epigeum portal (<http://researchskills.epigeum.com>)).

### **5. Collaboration and contribution**

#### **5.1 Collaboration**

*Multidisciplinary and transdisciplinary research* is a distinctive feature of the LUMS research culture. Many examples exist across the various management disciplines within the School, such as work on modelling and forecasting between Operational Research and Economics or the collaboration between Entrepreneurship and Leadership. Equally important is the collaboration with disciplines in other faculties/institutions. Significant examples include:

- *Citizens Transforming Society: Tools for Change (Catalyst)*. Catalyst is a £1.9m project, funded by the EPSRC, which brings together academics and communities to jointly imagine and build the next generation of tools for social change and to explore innovative, bottom-up technology-mediated solutions to major problems in society. All the Lancaster University faculties are collaborating on this project.
- *The DEMAND Centre* Funded by the ESRC/EPSRC with support from ECLEER (EDF R&D), Transport for London and the International Energy Agency (£3.94m). The Demand Centre takes a multidisciplinary approach to end-use energy demand, recognising that energy is not used for its own sake but as part of social practices. This approach generates an ambitious research agenda for the organisations involved in demand management. Collaborators include UCL, Leeds, Southampton, Aberdeen, Reading, Sussex, Birkbeck and Sheffield.

The School has always attached great importance to the contribution it makes to the wider community of stakeholders. Indeed, the *THE Business School of the Year Award* (in 2012) was made in recognition of the School’s engagement strategy. Collaboration with various organisations has created impactful research, some examples of which include:

- LUMS (through the Work Foundation) is one of the founding partners of the *Big Innovation Centre*, and now directs it. The Big Innovation Centre aims to research and develop an innovation ecosystem to support the growth of the UK economy. It brings together leading organisations (such as BAE Systems, Barclays, the Design Council, GlaxoSmithKline, Google, Logica and Unilever) with leading universities (such as Cambridge, Oxford, Edinburgh, Leeds, Sheffield and UCL) and key institutions from across the policy landscape.
- The *Centre for Performance-led HR* is analysing HR issues through a unique partnership between LUMS and major corporations and the public sector. It was nominated as one of five Outstanding Employer Engagement Initiatives in the 2009 THES Education Awards. In June 2011 it was described by the Financial Times as “an innovative research centre where academics and executives jointly set the agenda” and as having “pioneered a new way to interact with business”.
- The *London Creative Digital Fusion Project*. This £5.1m project supports innovative collaborations between SMEs in the London digital and creative industries and draws on the combined expertise of researchers at four HEIs. It is led by the Institute for Entrepreneurship and Enterprise Development at LUMS and other partners are the University of London, Queen Mary University, the Royal College of Art and Leadership for Business and Higher Education.

International research cooperation is also central to a vital and sustainable environment. Over the years LUMS has built a number of international networks – around focused areas of concern – for research collaboration and exchange. One such example is the INTACCT research network, a major collaboration between some of the leading university accounting and finance research groups in Europe. The project was funded under the EU’s 6th Framework Marie Curie programme. The network involved researchers in accounting, finance, economics, law and related areas from ten universities, with Lancaster as lead coordinator. The aim was to foster significant industry-academia research cooperation.

**5.2 Contribution to academic disciplines and learned societies**

Integrating the research culture of the School with the wider research ecology is an important strategic objective for sustainability and vitality. LUMS therefore actively encourages and supports staff to take an active role in developing the research infrastructure of the disciplines.

Significant editorial roles. School faculty are on the editorial boards of 109 leading journals, with 55 faculty in senior editorial roles. Examples of senior roles include, but not limited to the following:

<i>Accounting and Business Research</i>	Beattie (Editor), Young (Associate Editor)
<i>Applied Economics</i>	Paya, Peel (Associate Editors)

<i>British Journal of Management</i>	Conyon (Associate Editor)
<i>Entrepreneurship and Regional Dev.</i>	Jack (Associate Editor)
<i>Entrepreneurship Theory and Practice</i>	Chua (Editor)
<i>Ethics and Information Technology</i>	Introna (Founding Co-Editor)
<i>European Accounting Review</i>	Young (Associate Editor)
<i>European Financial Management</i>	Taylor (Associate Editor)
<i>European Journal of Finance</i>	Nolte (Associate Editor)
<i>Gender, Work and Organization</i>	Knights (Ed); Collinson, Dale, Gatrell (A/Editors)
<i>Information Systems Journal</i>	Chiasson (Associate Editor)
<i>Information Systems Research</i>	Introna (Associate Editor)
<i>INFORMS Journal on Computing</i>	Wallace (Associate Editor)
<i>International Journal of Forecasting</i>	Fildes (Associate Editor)
<i>Int. Journal of Management Reviews</i>	Gatrell (Co-Editor)
<i>International Small Business Journal</i>	Leitch (Editor)
<i>Journal of Banking and Finance</i>	Shackleton (Associate Editor)
<i>Journal of Business Finance &amp; Accounting</i>	Young (Associate Editor)
<i>Journal of Business Research</i>	Hogg (Associate Editor)
<i>Journal of Small Business Management</i>	Freel, Larty (Associate Editors)
<i>Journal of the Ass. for Information Systems</i>	Chiasson (Editor)
<i>Journal of the Operational Res. Society</i>	Pidd (Associate Editor)
<i>Labour Economics</i>	Walker (Editor)
<i>Leadership</i>	Collinson (Founding Editor)
<i>Management Science</i>	Ehrgott (Associate Editor)
<i>Mathematical Programming</i>	Letchford (Associate Editor)
<i>MIS Quarterly</i>	Introna, Chiasson (Associate Editors)
<i>Naval Research Logistics</i>	Nelson (Editor)
<i>Operations Research</i>	Letchford (Associate Editor)

School staff gave 120 keynote addresses at major conferences during the REF period, including:

- Beattie: annual PD Leake Lecture at the Chartered Accountants' Hall, London (2011)
- Glazebrook: Keynote at the Multidisciplinary International Scheduling Conference (2011)
- G. Johnes: Keynote at the Porto conference on Efficiency and Productivity Analysis (2008)
- Ehrgott: Keynote at the 3rd International Conference on Algorithmic Decision Theory (2013)
- Collinson: Keynote at the International Leadership Association Conference (2008)
- Letchford: Plenary at the International Conference on Combinatorial Optimization (2008)
- Pidd: Simulation Titan address at the Winter Simulation Conference (2008)
- Araujo: Keynote at the 4th annual conference of the Brazilian Academy of Management (2010)

Contribution to professional associations or learned societies (an indicative selection). Cox is EFMD Vice-President (academic network) and is a Fellow of the British Academy of Management where she has also served on the Council. Collinson is a member of the Research Advisory Panel of the HE Leadership Foundation (2008 onwards), and an academic advisor on Leadership Research for the National College for School Leadership. Walker is now serving on the EALE executive committee. Cooper is President of the Institute of Welfare, a member of the board of trustees of the American Institute of Stress, and a Fellow of the British Psychological Society, Royal Society of Medicine, Royal Society of Health and Academy of Management. Pidd is Chair Business and Management Studies sub-panel – RAE 2008 (ongoing). Rand is President of Omega Rho (2010). Otley is president of the management accounting section of the American Accounting Association. Advisory appointments are held in organisations such as: the Accounting Standards Board (Peasnell, Beattie); Institute of Chartered Accountants of Scotland (Peasnell); Bank of England (S Taylor); Institute for Compensation Studies (Conyon); Real Options Group (S Taylor); International Academic Advisory Board member, Centre for Strategic People Management (Sparrow). Simmons was elected President of the North American Association of Sports Economists (2011). Eglese was President of the Operational Research Society 2010-11.

Cartwright, Cooper, Cox, Easterby-Smith and Pidd are elected Academicians of the Social Sciences (Ac Soc Sci).

UK Research Council activity. Examples include: (1) Peel is on the ESRC peer review committee and Walker was the assessor for the “nudge” programme run by ESRC for HMRC. Walker also served on the Australian version of the RAE exercise; (2) Easterby-Smith is a member of EPSRC Large Grants Panel 2008 and has also been on ad hoc review panels for both ESRC and EPSRC; (3) Spring is a member (from 2004) of the ESRC CASE Studentship Panel; (4) G Johnes was on the ESRC Board of Examiners, 2008-10; (5) Busby, Eglese, Fildes, Glazebrook, Letchford, Pidd, Easterby-Smith and Clarke have been members of the EPSRC Peer Review College; and (6) Alexander, Beattie, Leitch, Faulconbridge, Pidd, O’Reilly, Hamilton and Spring have all been members of the ESRC Peer Review College during the review period. Glazebrook is a member of the EPSRC Mathematical Sciences Strategic Advisory Team. For REF 2014, Pidd chairs the Business and Management sub-panel and Walker is a member of the Economics sub-panel. Glazebrook is a member of the mathematical sciences sub-panel and member of the Strategic Advisory Team for the Mathematical Sciences, EPSRC.

Recognition and honours (an indicative selection). The achievements of our staff has been recognised with many honours and awards from external bodies. Cox was awarded an OBE in the New Year’s Honours List (2011) for her work in social sciences. Cooper was given the Lord Dearing Lifetime Achievement Award by the *Times Higher Education* (Nov 2010) for his distinguished contribution to higher education. In 2013, HR Magazine voted him 2<sup>nd</sup> Most Influential HR Thinker in the country. He was also elected an Honorary Fellow of the Royal College of Physicians. In 2012 Mouzas received the Konrad Henkel Stiftung Award. In 2008 Zografos was awarded the Edelman Laureate Honorary Medal for significant contributions to OR.

In 2009 Cook won a British Academy International Collaboration Award for a project entitled ‘Administrative Modernization in Brazil: Restoring Voice to Brazilian Intellectuals’. In 2009, a Royal Society Joint Award was won by Management Science to undertake a study on ‘Scalable simulators for high-fidelity models for policy analysis. Mercer and Pidd were made Companions of the OR Society in 2010 and 2011, respectively. In 2010 ESRC-funded research by Pawlina was awarded the highest grade (outstanding) by the ESRC. LUMS was also named the winner of the China Education Links Award (UKTI) in 2013

Awards for academic contributions (an indicative selection). *Senior faculty:* Easterby-Smith was given the Richard Whipp Lifetime Achievement Award at the 2010 British Academy of Management Conference, and a ‘tribute’ article on his work by Professor Vera (University of Houston) was published in *Management Learning*. In 2008 Peasnell’s paper ‘Which approach to accounting for employee stock options best reflects market pricing’ (2006) was awarded a prize from the American Accounting Association’s Financial Accounting and Reporting Section for the paper published in the previous five years that “best reflects the tradition of academic scholarship, readability and relevance to problems facing the accounting profession and standard-setters.” Soopramanien won the Market Research Society Award (2009) for collaborative research. Jack was awarded the Lewis Institute’s best paper award in 2008. Collinson’s article ‘Identities and Insecurities: Selves at Work’ (2003) has been the most cited article published in the journal ‘Organization’ from 2005 to date. It has also attracted international recognition, featuring as ‘the ‘most cited paper in the field of Economics and Business’ in the US ‘ScienceWatch’, published by Thomson Reuters in 2009. Glazebrook was awarded the prestigious Beale Medal of the OR Society (2013) and Zografos was appointed to the Scientific Committee of the Single European Sky Air Traffic Management Research Joint Undertaking (SESAR JU), 2013 – 2016.

*ECR faculty:* In 2008 Strauss was given an award at IMAC for the most successful paper in applied numerical mathematics. In 2010 Dada received two best paper awards: in the Entrepreneurship Track at the BAM Conference and at the 24th Annual International Society of Franchising Conference in Sydney, Australia. Friesl and Larty were awarded the Best Practice-Oriented Paper Award at the Academy of Management Conference (2013).

*PhD students:* Kaparis won the Operational Research Society’s 2008 national PhD dissertation prize, followed by Strauss in 2009; Strauss was also awarded an EPSRC PhD Plus Fellowship. Arifeen awarded prize for Best Doctoral Paper at EURAM (2013).