



## UCL Research Strategy

### MAXIMISING IMPACT AND INFLUENCE GLOBALLY

#### 1. Vision – A new paradigm for research

A large proportion of the world's population still suffer from illnesses and diseases that medical science can already cure; over half the world's population lives in cities, many of which are becoming dysfunctional and are threatened by climate change; world peace hangs by a thread because of tensions between cultures and faiths; and, despite technological advances, the perceived and actual quality of life of many is diminishing. These are global problems, which this generation must address if future generations are to flourish.

Universities are places “of light, of liberty and of learning”. They have the privilege of being able to play a central role in changing the world. Arguably, in the recent past, universities have not been seen major forces for social change. UCL's new research strategy will help realise the radical vision of its founders, who, following Bentham, believed that education, and hence universities, were the key to reform. The strategy will deliver excellence and generate global impact in a sustainable financial environment.

UCL is London's global university. Located in the heart of a multicultural global capital, with access to Westminster and Whitehall, the City and world-class NHS partners, and expertise in a broad and arguably unique range of academic disciplines, UCL is one of the UK's largest and most productive research-intensive universities and of the world's major multifaculty, metropolitan higher education institutions. With its unique strengths and position, UCL has an opportunity and an obligation to develop and disseminate original knowledge to help provide solutions to the grand challenges faced by the world today and tomorrow.

This strategy builds upon the established excellence of the fundamental academic disciplines that historically, and for pragmatic reasons (such as the demands of research led teaching and the nature of research assessment), are based upon academic departments, faculties and, more recently, schools.

Objectively, via the past Research Assessment Exercises (RAEs) and other metrics, these departments, faculties and schools have been shown to be delivering excellent research and education. UCL's success is evidenced by the results of the last RAE, when a total of 40 out of 48 of its submissions were graded as 5\* or 5. Since then, 15 departments – researching in areas as diverse as child health, chemistry, economics, classics and ancient history – have been designated “best 5\*” by the Higher Education Funding Council for England. It has enjoyed exceptional success in bidding for competitive funds from the government's Joint Infrastructure Fund (JIF) and in its share (the highest of any UK university) of the Science Research Investment Fund (SRIF). These have enabled UCL to invest more than £250 million into state-of-the-art infrastructure, facilitating cutting edge research across a broad range of disciplines.

A considerable proportion of the research at UCL is undertaken by single academics working on their own areas of individual interest and by coherent department- or faculty-based groups. While embracing and celebrating such outstanding individual or group, problem-driven scholarship, a key element of UCL's developing strategy will be however to increase and strengthen ‘thematic’ interdisciplinary research. Interdisciplinary centres, several of which have already been established, will optimise the impact of current institutional research by building upon strong fundamental foundations, and creating faculty-crossing research hubs (either physical or virtual) focused on large, globally significant issues. These centres will be embedded into UCL's governance and planning procedures. They will be supported internally, providing a focus for both internal planning and research initiation and a window to the outside world, to demonstrate and disseminate the excellence and significance of UCL's research. They will provide foci for training of postgraduate students in fields of contemporary significance, attract new funding and work with industrial and other partners to realise the economic and social potential of UCL's activities. Many of these centres' activities relate to global issues, aligning naturally with the priorities of external agencies – the UK Research Councils and charitable

fundings, the EU Framework 7 programme and the UN Millennium Development Goals, and in which the international research community is rightly concentrating resource and manpower.

However, to maximise the advantage of the breadth of its expertise and to generate the vision for global (as well as local and regional) development, UCL will address still higher-level strategic goals. These are challenges that have a societal focus, and are not simply object- or problem-orientated. In the first instance four Grand Challenges have been identified, that are truly pan-institutional and global in their significance:

- **Global Health** – This problem goes beyond the major infectious diseases such as HIV-AIDS and malaria. These diseases can largely already be treated, but societal (poverty, conflict, governance, trade) or natural (climate change, resources) forces prevent the delivery of effective treatment in huge parts of the world. UCL's great strengths in social sciences, laws, physical sciences and engineering, when combined with leading strengths in medical science, will enable it to identify and to provide solutions to help overcome these obstacles.
- **Sustainable Cities** – Climate change, population growth and limitations on natural resources threaten the long-term stability of 21<sup>st</sup> century cities, of which London is a significant exemplar. This challenge requires the integration of scholarship from the built environment, laws, energy, transport, waste, employment, security, telecommunication etc. Again, UCL is especially well equipped to provide a lead in this field
- **Intercultural Interaction** – How can global stability and order be sustained? How can understanding of the interactions between East and West; North and South; Spurs and Arsenal ... be enhanced? What does it mean to be British ... or French ... or Czech ... ? What will be the nature of the nation state of the future? How will international conflicts be resolved or the ownership of natural resources be determined? What will be the role of international organisations like the UN? To provide solutions to these questions requires an understanding of global and local cultures, laws, languages, history, politics, philosophy, art, security ... all areas in which UCL excels
- **Human Wellbeing** – What it means to be human: the nature of human beings, and human activity, the individual and social conditions of a healthy and fulfilling life from childhood to old age, quality of life, personal medicine, human rights and the setting of just priorities between different social goals. UCL has the expertise to address all of these issues.

Mechanisms for tackling these Grand Challenges already exist embryonically within UCL, but these will, over the next few years, be nurtured, planned and evolved to engage the widest university audience. In parallel, new challenges will be identified and addressed in an ongoing way.

UCL will establish the mechanisms whereby its expertise and analysis of these Grand Challenges can be brought to the public forum, so that worldwide funding agencies, opinion makers and legislators can be guided and informed by its work, and contribute to its funding and development. In addition these Global Strategic Challenges will be integrated with the Global Citizenship agenda that is being developed for UCL's students.

To address its Grand Challenge objectives UCL will use the interdisciplinary 'themes' to provide focused inputs and perspectives on its Grand Challenge goals. One mechanism to promote these activities will be a series of UCL symposia to bring together those working at UCL in the field, with a number of external contributors. For example, UCL has contributed to Global Health by considering: 'Global Health – What's justice got to do with it?', 'Public Inconvenience: The politics of toilets in India', 'Global Health Governance: Who is accountable to whom?' and 'HIV/AIDS – With no magic bullet, where to next?' Similar intersections between themes and Grand Challenges will be defined for Sustainable Cities, Intercultural Interaction and Human Wellbeing. In addition, symposia will also be based on geographic regions, eg 'Sustainable Cities in Latin America', 'Nigeria and Global Health', 'Transport and London', 'Intercultural Interaction: Women in the Middle East'. These events will form the basis for publicly accessible analysis of the issues discussed which will be of interest to the strategic planners in government, NGOs, large corporations etc, and sponsorship will be sought from those with whom UCL may wish to develop a strategic alliance.

## 2. Guiding Principles

Research at UCL has always been conducted in an environment of academic freedom and intellectual curiosity. The strategy set out in this document reinforces this institutional commitment to these tenets. Research success depends on a combination of long-term planning and a level of flexibility and intellectual agility that enables researchers to respond rapidly and imaginatively to new initiatives and emerging areas.

### 3. Strategic Aims & Imperatives

The following broad strategic aims and imperatives are applicable, to varying degrees, to all of the institution's current research activities:

- to build on UCL's existing world-class profile creating international leadership in selected areas where it has demonstrably outstanding strengths and critical mass, whilst maintaining a broad base of research expertise on which future areas can be developed and nurtured
- to engage in research in the sciences, arts and humanities that tackles contemporary global issues and brings benefit to the individual, society and the environment. To conduct research that contributes to improvements in our knowledge and understanding of the diversity of human societies and culture, past and present, and fosters and facilitates intercultural exchange
- to respond to the needs for research and training of the UK government and the corporate community, as well as regional and local priorities. To be responsive to the strategic objectives of the major national and international funding agencies, both public and private, and to seek to play a prominent role in helping to inform and shape these research agendas
- to ensure that, where appropriate, the outputs of UCL research are made available to the wider community by the exploitation of intellectual property for public good and wealth creation, and by working with the commercial sector, to enhance UCL's contribution to the knowledge economy through translational research and innovation.

To realise these objectives UCL will:

- identify its research priorities and 'remodel', where appropriate, its academic structures around these priorities. Be willing to withdraw investment from those areas which are no longer relevant or are failing to thrive. Engender a culture shift away from a rigid departmental approach to research
- ensure that interdisciplinary research, which will be increasingly important in tackling the complex problems facing society, is encouraged and promoted and that any internal barriers which might impede such research are removed
- enhance the excellence of its research profile by the recruitment globally of outstanding individuals and groups and the creation of a positive working environment and culture that maximises their creativity and effectiveness. Create opportunities for younger researchers to take leadership roles around new initiatives
- provide researchers with cutting-edge infrastructure, facilities and equipment to enable them to compete with the best in the world
- ensure that comprehensive, fully resourced and sustainable funding streams/mechanisms are in place, either from external agencies or from the use of internal resources, to facilitate and promote excellence in all areas of research
- provide an exciting and supportive environment for the training of tomorrow's researchers and academic leaders
- develop supportive administrative and financial structures that will facilitate and underpin research, enabling academics to use their research time to maximum effect, together with information networks to facilitate communication and inform strategy
- set ambitious but realistic performance targets and to benchmark UCL's performance against other major national and international institutions on an ongoing basis
- ensure that UCL's external profile is raised nationally and internationally and that its successes in research and innovation are publicised effectively to promote its reputation for excellence. To ensure that the UCL research community recognises the importance of engagement and responsible debate with the public on issues of concern and that research results are made accessible and understandable to this constituency.

The following sections set out the major issues to be considered in achieving the aim of maximising global impact and influence. In essence, the strategy involves identifying its major research priorities, especially those benefiting from expertise across a number of disciplines, identifying the best people to take these forward, providing them with an environment that maximises their creative potential, ensuring that the outputs of their research endeavours are 'translated' into real outcomes whatever the academic area, creating effective communication channels within and without the institution and supplying sustainable funding streams.

In addition, a successful research-intensive university is also characterised by the nature of the educational experience that it offers to all its students, both undergraduate and graduate. Teaching at UCL has always been, and will continue to be, informed by its research activities and delivered by experts in the field.

#### 4. Identifying Future Priorities

Historically, research at UCL has thrived through the imagination, ideas and endeavours of talented individuals and groups. This 'bottom-up' approach has generated exceptional outcomes in all areas of academic life and will continue to underpin a great deal of the research output and scholarship of the university. However, it is clear that many of the major national and global challenges will require a more directed and proactive approach. The major UK and international funding agencies, as well as multinational companies, are already targeting some of their resources in this way, and, if UCL is to retain and enhance its position at the forefront of research in the UK, it must respond appropriately.

As a leading research-intensive university, UCL has entered into Framework or Partnership Agreements with several of the Research Councils. In addition, UCL is well represented on the councils and panels of most of the major funding agencies. As part of its research strategy, UCL will seek to ensure that these special relationships are maintained, extended to other agencies, including Government Foresight Panels, and used effectively for mutual benefit, and that UCL continues to be adequately represented on the decision-making bodies of the agencies concerned. It is only by such representation that UCL academics will be involved in helping to determine the latter's future research agendas.

UCL currently engages in a number of activities, workshops, away-days etc, which are aimed at identifying future research priorities, but these have mostly been discipline-based. There have also been over the past few years several more interdisciplinary events at which academics from a number of disparate disciplines have been brought together at 'town meetings' to discuss broad themes such as the environment and energy. UCL plans to increase the number, diversity and academic breadth of such meetings, not just in response to potential funding opportunities, but as 'horizon-scanning' platforms for considering future global research challenges. The input and advice of external experts from both public and private sectors in the UK and internationally will be increasingly sought in these activities.

#### 5. Interdisciplinary Research

There is a tradition of individual research and scholarship at UCL which has led to the highest levels of achievement and discovery, and in many areas this will continue to be the primary mode of enquiry. However, interdisciplinary research which integrates the analytical methods, skills and strengths of a number of disparate disciplines to yield fresh, and possibly unexpected, insights will be increasingly important in tackling many of the major global issues of the 21<sup>st</sup> century<sup>1</sup>. UCL, with its breadth and diversity, is particularly well placed to address such problems and, alongside single discipline-based scholarship, research which transcends faculty and departmental boundaries will be further encouraged. Most of the funding agencies have already acknowledged the necessity of interdisciplinary research and are positively encouraging such an approach with new funding opportunities.

Strategies will therefore be introduced to encourage further interdisciplinarity and to remove or reduce any organisational or financial factors that currently impede progress. Such strategies will add value to the work of individuals without detracting from the missions of their home departments or destabilising core competencies. They will involve the establishment, in a well planned and coordinated fashion, of further institutes/centres, some of which will benefit from physical co-location whilst others may be 'virtual'. The identification of dynamic and imaginative leaders is crucial; individuals who will galvanise disparate groups from around UCL and provide long-term vision and commitment to the project. Joint appointments and the provision of jointly supervised PhD studentships will also be useful, although the additional challenges of interdisciplinary training will need to be taken into account. 'Pump-priming' support from central funds (the Provost's Strategic Development Fund) or faculty budgets will be provided. This will be used wherever possible to provide leverage for the acquisition of external support, including that from industry. In addition, more opportunities for cross-faculty interactions will be made available in terms of 'town meetings' and interdisciplinary research seminars. Such strategies will be underpinned by improvements in the availability of information about research activities across all areas of academic endeavour.

An additional benefit deriving from this approach will be the development, over time, of a more interdisciplinary undergraduate and graduate curriculum, providing both a virtuous feedback loop to research and an attractive alternative to students looking for a broader and more relevant educational experience.

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<sup>1</sup> "We are not students of some subject matter, but students of problems and problems may cut right across the borders of any subject matter or discipline." Karl Popper (Conjectures and Refutations: The Growth of Scientific Knowledge).

## **6. International Perspective**

UCL defines itself as a global university in terms of its impact, leadership and opportunities, a vision particularly relevant to UCL's research activities, many of which are, by their very nature, international. This vision is well articulated in the institution's International Strategy. Most UCL academics and departments have long been operating within an international framework in terms of research collaborations and of postgraduate and postdoctoral (and undergraduate) training. UCL's Research Strategy therefore seeks to further enhance and develop these international links by building on existing strengths and best practice. It will continue to encourage research collaborations across national and disciplinary boundaries, particularly those that have a bearing globally on social, environmental, legal and health issues, where UCL engagement can have a significant impact, and will aim to provide an institutional lead whenever appropriate.

UCL will continue to recruit the best researchers and scholars globally and will ensure that relationships built up through the training of overseas researchers (masters, PhDs and postdoctoral workers) are maintained and exploited for mutual benefit of both the institutions and the countries involved.

UCL will engage with leading institutions, government organisations and NGOs in developing countries to facilitate opportunities for staff mobility, research collaboration and sponsorship for research students. It will ensure that its work with international research sponsors is more closely integrated to gain maximum leverage and profile within and without the institution and will position itself to be more attractive to such sponsors by raising awareness of its international research profile.

UCL will build on existing, and extend, partnerships with leading UK cultural and scientific institutions (Royal Society, British Academy, British Council etc) which operate in an international environment. It will also develop further associations with appropriate scientific, medical, social science and public-policy institutions worldwide (WHO, NIH, Academies of Science etc) to advance its reputation as a globally responsible international university.

UCL will promote collaborations with international and multinational businesses. Although such collaborations will be primarily in the commercial exploitation of research, opportunities for overseas consultancy will also be more fully exploited. It will adopt a strategy of building on existing, and developing new, partnerships with major multinationals to promote research collaboration and facilitate staff and student mobility.

## **7. Ethical Research**

UCL's vision of being a world-class centre of research and teaching, dedicated to developing and disseminating original knowledge to benefit the world of the future, is underpinned by a commitment to maintaining the integrity and probity of scholarship and to ensuring that research is conducted and disseminated honestly, accurately and in accordance with the highest professional standards. This overarching commitment is relevant to every aspect of academic endeavour, although especially pertinent to research involving human or animal subjects where there are specific statutory requirements.

Researchers owe a duty of responsibility to society, their profession, their institution and, where relevant, to external funding agencies, to be fully responsible for their own research conduct as well as for the activities of any staff or students under their direction. This involves responsibility for the ethical conduct of that research, for the safety of all those involved and the probity of financial management including an obligation to provide optimum value for the funds invested.

These responsibilities and duties which are expected of researchers are complemented by an institutional commitment to the academic freedom of those undertaking research, provided that such freedom is exercised within national and international law.

In developing a research strategy which is flexible and dynamic, it is important that UCL has mechanisms to ensure that its policies relating to the ethics of research are comprehensive, accessible, relevant and up-to-date. The institution will ensure that procedures are in place to monitor any changes in the law, or other external trends, that impact on research and to amend its policies appropriately. Again, this has particular relevance in biomedical (and social) research, and the greater coordination of the R&D activities of UCL and its NHS partners, including the establishment of joint offices, will greatly facilitate this process.

## IMPLEMENTATION

### 8. Recruitment Strategy

UCL's research reputation is determined by the quality of its academic staff and a key element of its research strategy is to have in place effective mechanisms for the identification and recruitment of outstanding researchers in all areas of academic endeavour.

UCL will continue to recruit strategically as positions, calling for specific expertise in existing research fields, become vacant. It will also, however, increasingly seek to identify new directions in research and scholarship and to bring people into these areas, building up a critical mass where appropriate.

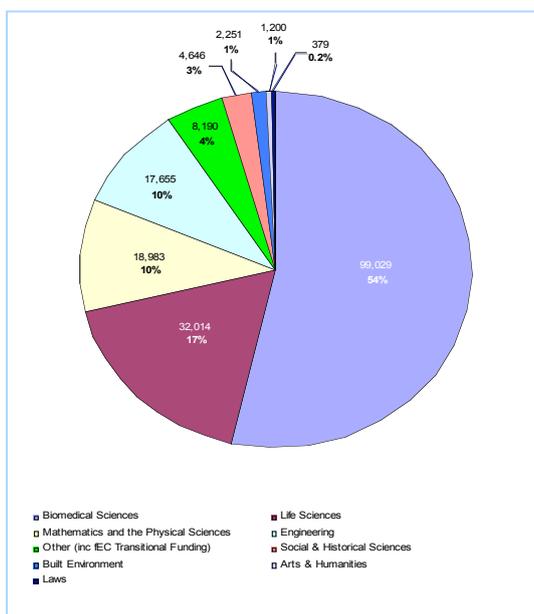
UCL's international reputation is a key factor in its ability to recruit the best, and it will only continue to be attractive if it can offer these key individuals appropriate incentives. Competitive salaries form only part of this. Equally important are the research infrastructure: space, cutting-edge equipment, access to good graduate students, freedom from excessive and burdensome administrative duties, and limits on the level of teaching that is expected, especially during the early years when research careers are being established. UCL will ensure that all these incentives are in place to attract the best researchers worldwide.

With the increasingly interdisciplinary nature of much of the 'problem-solving' research now being undertaken, there is a need for departments and faculties to adopt a more cooperative approach to recruitment. When gaps in expertise spanning a number of fields are identified, joint appointments will be increasingly used, and financial and administrative impediments to organising such arrangements minimised.

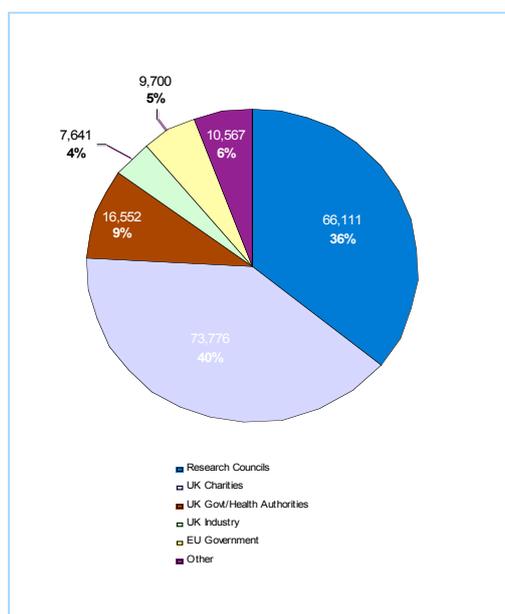
### 9. Maximising Grant Income

UCL continues to be successful in securing competitively won grant income, with a total in 2005/2006 of some £184 million, an increase of some 50% since 1999/2000. Its portfolio of research income by faculty and by sponsor is summarised below.

*Research income by faculty (£k) 2005/2006*



*Research income by sponsor (£k) 2005/2006*



Despite this past record of achievement, there is always scope for improvement. In the increasingly competitive national and international research arena, UCL will need to take every opportunity to maintain and enhance its funding potential, and to extend and diversify its portfolio of funding sources. Practical measures to address these issues will be introduced to improve UCL's competitiveness and to maximise its research income from all sources. The institution will seek to increase the number and quality of grant applications, especially for longer-term awards, by providing a greater level of support for applicants and removing any disincentives which make academics, especially in non-scientific areas, reluctant to apply. Such measures will include increased administrative support for the application process and more direct benefits for research-funding success.

With its size and diversity, UCL is uniquely well placed to respond to the increasing number of major interdisciplinary programmes that require expertise across a range of subjects and faculties. It has already enjoyed significant successes in these types of awards, in nanotechnology and imaging for example. However, to ensure that this trend continues, UCL will adopt a more proactive and coordinated approach to planning by building on current best practice and ensuring that the university is well prepared to respond effectively to future initiatives.

## **10. Performance Indicators & Benchmarking**

Research performance is arguably the key driver of a university's reputation and standing in the international arena, and UCL's record of achievement is outstanding, ranking 4th in the UK, 5<sup>th</sup> in Europe and appearing in the top 25 of the world's major research universities. Although the rigour and methodology of academic league tables can be questioned, there is no doubt that they have an impact on both internal and external perceptions of the institution and thus on its ability to attract the best academic staff, students and investment. UCL will therefore seek to maintain and enhance its reputation for world-class research across a broad range of disciplines.

In order to monitor the effectiveness of its future research strategy, UCL will ensure regular, reliable and transparent reporting of appropriate performance indicators, both quantitative and qualitative, at the departmental, faculty and institutional level. This will be particularly important and relevant in the post-2008 RAE academic environment.

Although UCL can be justifiably proud of its record of excellence in research, which has had demonstrable impacts on our understanding of the world and its peoples, the institution cannot be complacent. To ensure that UCL retains and improves on its national and global position, benchmarking against its major national and international competitors will be undertaken in a more consistent fashion, and realistic targets and timeframes for improvement defined.

## **11. Information & Communication Strategy**

Effective communication is the cornerstone of a successful research strategy. This is important both for the collection and dissemination of information within the institution, and for the promotion of UCL's reputation in the wider world. Communication is dependent on a willingness of those involved to share knowledge, and on the systems in place to assemble and distribute this knowledge.

A key element of UCL's research strategy and future planning will be the development of a searchable database which records the institution's research activities. This will include information relating to research that is externally funded as well as independent scholarship. Such a database will facilitate strategic and managerial decision-making and provide information for the development of major interdisciplinary funding applications. It could also provide a resource for external stakeholders – potential academic collaborators, funding agencies etc – wishing to gain an insight into the extent of UCL's activity in a particular area.

Related to the need for a fully inclusive database of all UCL's research activities, is that of a complete record of outputs in terms of publications for the use of those within the institution as well as the external community. In the spirit of 'open-access', UCL will seek to ensure that where appropriate *all* of the latter are entered into the Eprints electronic system.

The lack of efficient and reliable communication channels for the gathering and distribution of information can undermine the effectiveness of a research planning strategy. Mechanisms for promoting more effective knowledge-sharing, both from the central and faculty-level decision-making bodies downwards and from individual researchers upwards, will be developed.

A significant element of UCL's external image relates to its research activities and further work will be undertaken on the Research pages of the website to ensure that they reflect, in an effective and consistent fashion, the dynamism of UCL's achievements. In particular there will be a clearer and more focused articulation of the overarching research strengths of all UCL faculties, especially those areas that cut across disciplines.

To complement UCL's web presence, further presentational materials will be produced on a regular basis in hard copy, showcasing UCL's latest research successes. This will be made available to a variety of audiences in the UK and overseas (alumni, donors, corporate sponsors, government etc) to demonstrate the vibrancy of UCL's research outputs across the spectrum of disciplines.

In addition, greater efforts will be made to ensure that the university is appropriately attributed as 'UCL' in any publications. Inaccuracies in this regard can have significant impact on the extent to which its research is cited and UCL researchers recognised as publishing in the highest ranking journals. It is also essential for more general public recognition in the print and broadcast media.

## **12. Research Planning**

The Vice-Provost for Research (VPR) is the senior academic charged with promoting, supporting and facilitating world-class research at UCL. He/she chairs the Research Strategy Committee (RSC), the body responsible to UCL's governing body (the Council) for determining UCL's overarching research agenda. The RSC comprises senior academics and research administrators, with responsibilities broadly divided into those involving internal activities – planning, facilitating, monitoring and reporting – and external relationships with agencies, such as the HEFCE, the Research Councils and other funders, the UK Government, the EU and industry.

Research priorities are determined at the faculty level by the dean in consultation with the heads of divisions (and institutes) and departments, senior PIs and the recently created Vice-Deans for Research (VDR). These latter individuals, working closely with their respective deans on all issues relating to research (faculty priorities, academic recruitment, infrastructure, budgetary issues, monitoring of grant income etc) will be central to the development and implementation of UCL's future research strategy.

UCL will also be investing in the recruitment of Research Facilitators to provide an interface between the research community within the institution and the funding agencies. They will operate in a proactive manner, supporting academics in the preparation of grant applications and providing up-to-date intelligence about funding opportunities and the changing priorities of the funders, both national and international, public and private.

Working in a collaborative way across the institution, the VDRs and Research Facilitators will greatly enhance UCL's ability to submit high-quality interdisciplinary applications grant applications.

## **13. Early Stage Researchers (Postgraduate and Postdoctoral) Recruitment and Training**

The recruitment and training of high quality early stage researchers – research students and postdoctoral staff – are crucial features of UCL's research strategy. These individuals are the life-blood of research, generating the vibrancy and vitality of UCL's academic life today, with many becoming the leaders of tomorrow. UCL will seek to increase opportunities for the best young minds from the UK and overseas and, with regard to the latter, is working with international sponsors, from public, charitable and private sectors, to offer scholarships for postgraduate training.

The graduate training programme at UCL encompasses much in addition to that offered by individual research supervisors and departments. UCL's Graduate School runs a comprehensive Skills Development Programme for research students, providing courses that help academic studies and enhance life skills and future employability.

The Research Councils and other agencies supporting postgraduate training are increasingly looking to universities to use the funding they provide in a more strategic way, mirroring the development at UCL of four-year PhD and EngD programmes. The creation of such programmes is a very effective way of developing and sustaining existing areas of strength (eg neuroscience) and for pump-priming new fields, particularly those that are interdisciplinary and deemed to be important for the future. UCL will seek to increase the development of such programmes, especially at the interface between disciplines, taking full account of the funding agencies' priorities. Arrangements for co-funding with national and international agencies will be extended through UCL's Scholarships Strategy, and Cross Disciplinary awards will continue to be used to encourage research students to strengthen their research in areas other than their primary discipline.

To ensure that UCL is able to maximise the impact of the training places available, consideration will be given to the centralisation, where feasible, of advertising and recruitment. Where this strategy has been used at UCL it has been demonstrably successful, attracting the very best applicants from the UK and internationally.

## **14. Research Infrastructure – Buildings and equipment**

Sustainable funding for research infrastructure – new and refurbished buildings and equipment – is always problematic. The JIF and subsequent SRIF initiatives have gone some way in addressing the historic deficiencies in UK's universities but it is not clear how long the current programme will continue. UCL, along with the other major research-intensive universities, will need to make increasingly difficult choices about how to prioritise its future investment in this area. Currently faculties identify their priorities in their individual Strategic Plans, which are then considered by the Provost's Senior Management Team and/or the Estates Management Committee, and recommendations made accordingly. It is clear that in the future, scarce resources will need to be directed to developments where their impact will be most profound, in line with agreed strategic priorities, and that greater cooperation will be required between faculties in making these decisions. The grouping of faculties into a 'School' structure will be helpful in this regard and the Research Strategy Committee will take a more active role in determining priorities.

## **15. Knowledge Transfer & Exchange**

The UK government believes British universities should play a direct and increasing role in economic development, particularly by helping business to innovate. Funding programmes are being modified in ways that will reward those researchers who include a major knowledge transfer, or 'knowledge exchange', component in their applications. Recognising these external drivers, UCL positively encourages and rewards 'third-leg' activity with incentives and peer recognition of the importance of such commercial engagement.

In 2006 UCL launched a new Knowledge Transfer (KT) strategy. A Vice-Provost (Enterprise) was appointed to provide strong academic leadership for all knowledge transfer activities and a broad-based Enterprise Board has been formed. UCL's KT strategy is implemented by (1) UCL Advances and (2) UCL Business plc (UCLB) who, working together, coordinate efforts to create lasting relationships with external stakeholders.

UCL Advances' mission is to stimulate "collaboration among researchers, business and investors driving innovations that benefit society and the economy". Its in-reach programmes provide technology entrepreneurship and commercialisation instruction to UCL academic and research staff, ensuring all disciplines are well positioned to participate in commercialisation of their research output. Outreach activities enhance UCL's connectivity to large for-profit technology-related companies, financial investors (eg venture capitalists and angel investors), and the entrepreneurship community. UCL Advances has also worked to deepen the partnership between UCL and London Business School to develop capacity in the area. In addition, UCL Management Science & Innovation provides research and degree programmes on management issues faced by technology-intensive organisations.

UCLB, an independent but wholly owned subsidiary of UCL, was created to manage UCL's commercial transactional knowledge transfer activities. Its Business Managers, covering the breadth of UCL's research interests, provide support to researchers to build up emerging areas as well as direct help in the formulation, preparation, submission and management of complex funding applications.

Knowledge transfer and exchange activity is not confined to the physical, biomedical and engineering sciences. Equally important is the rich and diverse content derived from arts, humanities and social and historical sciences research for print, film, and digital and broadcast media, as well as through work for exhibitions and performances. The strategy for these areas involves working in partnership with both major arts institutions in London to ensure that research and scholarship is made available to public audiences and with further and adult education in London to disseminate new ideas in humanities disciplines more widely, including to the business and industry communities.

UCL Laws also makes substantial contributions to the dissemination of legal expertise to the legal professions, parliament, government, international bodies, many other public bodies and the general public. Members of the faculty sit on public advisory bodies, including the Committee on Standards in Public Life, the Judicial Appointments Commission and the Council on Tribunals, as well as advising bodies such as the Joint Committee on Human Rights, the Home Office, the Cabinet Office, the Ministry of Justice, the World Bank and the United Nations Environment Programme.

## **16. Fundraising & Communications**

The Development & Corporate Communications Office (DCCO) derives its fundraising priorities from UCL's corporate plan and strategy, thereby ensuring that its work is in support of key institutional objectives. Indeed, this alignment is essential to make the fundraising case persuasive to potential donors.

The projects included in the Campaign for UCL have been recently reviewed and a re-prioritised list produced that has now been endorsed by UCL's senior management. This includes a number of projects that support the strategic aims and imperatives identified in this Research Strategy. Philanthropy is being sought to support the recruitment of world-class individuals through the funding of Chairs, as well as the establishment of a Postdoctoral Fellowship Fund designed to help UCL to attract and retain the best young researchers. Funding has been, and will continue to be sought, to help provide the infrastructure and facilities needed to carry out first-class research and scholarship. Within this framework, DCCO will be responsive to new needs as they arise, at the same time ensuring that these align with corporate objectives. A formal process to facilitate this is being established.

UCL seeks funding for research through three main activities – grant applications, engagement with commercial partners and fundraising. Mechanisms will be developed to ensure greater communication and cooperation between the individuals and groups involved in all three, to maximise funding opportunities and to help avoid overlaps and inconsistencies in approaches to potential funders and donors.

Communication of UCL's research activity and achievements, both internally and externally, is key to maintaining and raising UCL's profile nationally and internationally, which in turn helps to attract new sources of donation. While UCL already gains considerable media coverage for its more 'newsworthy' research, new ways of promoting research activity more widely will be developed.

## **17. Public Engagement**

As a university with a global reach, UCL is diverse, welcoming and multicultural, and committed to its founding ethos of inclusivity. Although the concept of public engagement and debate permeates every aspect of its academic life, it is especially pertinent to its research activities, across a broad range of disciplines. With its metropolitan location, much of UCL's 'outreach' is focused on London's most deprived communities, but its activities extend far beyond, in the UK and internationally, through its coverage in the print and broadcast media.

UCL anticipates setting up a Public Engagement (PE) Unit which will draw together existing projects and provide focus, direction, support and guidance for all those involved. It will develop a Public Engagement Strategy in collaboration with UCL's Corporate Communications team, with the aim of enhancing the value and maximising the effectiveness of the university's work in the area.

The PE Unit will work to raise the profile of public engagement within UCL by actively promoting the value of this work and by putting in place policies and practice that will establish it as a core business of the institution. It will consolidate, promote and support an 'expert network' of UCL academics willing to work with the public and media.

This aspect of UCL's research strategy resonates with the aims of the funders – public and charitable – to promote the free flow of information and exchange of views between academics, members of the public and policymakers, ensuring that higher education makes a significant contribution to community life.

## **CONCLUSION**

These broad strategic aims and imperatives, which cover the entirety of UCL research, will be achieved by consolidating, and more explicitly codifying, existing good practice, and by introducing new methodologies to support and facilitate research excellence. This strategy will be informed by and embodied in, the UCL Grand Challenges agenda. Only when it has achieved this level of integration, synthesis and outreach will UCL have approached its goal of being London's global university, and begun to fulfil the great, if not unique, potential as a centre of teaching, of research, of scholarship and of vision.

**September 2008**

NB This strategy for research complements other UCL strategic documents such as those relating to Learning & Teaching, International Relations, Commercial Engagement and Corporate Communications.