

## FACULTY OF SCIENCES PLAN 2011

Document Issue date: April 2011

### **In support of the University Institutional Plan, the Faculty will:**

- be the leading University for Science education, research and enterprise in our region (via activity at both the Canterbury and Medway campuses)
- provide an excellent student experience through research-led teaching, placement opportunities, and by providing attractive progression routes at postgraduate level which will also attract increasing externally recruited students (both Home/EU and overseas)
- continue to build on our world-leading research strengths identified in RAE 2008, such that we significantly increase both the fraction and absolute number of staff who are leading researchers, leading to more research income and more 4\* outputs
- strengthen innovation and enterprise activities through partnership with KIE and via engagement with the Innovation & Enterprise strategy and the new Health strategy
- develop a more effective, efficient and sustainable administrative infrastructure both inside the Faculty and by sharing across all the Faculties

### **Report on Current Activities**

This is broken up by topics of specific activity.

#### **Learning and Teaching (UG)**

Overall, the Faculty has had a successful year in terms of recruitment, increased tariff scores, National Student Survey (NSS – this is the independent student evaluation of their courses carried out nationally) performance, employability, personal development planning, etc. Taking these topic by topic:

*-NSS:* Schools now routinely engage with this and consider their scores. Successes include: BioSciences with a 92% overall satisfaction rating in Biology, School of Maths Statistics and Actuarial Science (SMSAS) which had a 93% overall satisfaction rating, Medway School of Pharmacy (MSOP) with a 94% overall satisfaction rating, Physical Sciences (SPS) with a 92% overall satisfaction rating in Physics and 97% in Forensic Science and Engineering and Digital Arts (EDA) with a 100% satisfaction rating for engineering, in which it was ranked #1 in the country. Schools are reminded several times in committee meetings of the need to consider any areas of weakness in these surveys and are expected to address these with specific actions. They are also congratulated on their many strengths. In the case of Forensic Science (which is part of SPS) there will soon be a separate code in the NSS (it currently shares with Archaeology) so soon we will see separate league table emerge for this discipline and Kent will be well positioned to be near the top.

*-Tariff scores:* In most Schools there has been an increase in the tariff in recent years. However, the Faculty is the lowest on average of the three Faculties at Kent and for 2011/12 entry aims to increase the overall average score by ~20 points. Partly the current lower score is due to the subject mix, and comparisons with subject peers are more relevant. However, even so the tariffs are still too low and all Schools in the current planning round have been asked to address this. In most cases there has been a strong increase in applications (sustained now over several years) and this should help drive up tariff scores by increasing competition for the limited numbers of places. Of particular continuing concern regarding tariffs is the disparity between the Canterbury and Medway tariff scores in Computing. The School has taken steps to improve their presence in Medway with more staff being hired, more research staff being based there etc., and it is hoped such measures will improve the attractiveness of the offer. The School also has adopted an explicit “One-School” policy to maintain equality between the two campuses. EDA have a low-ish tariff score, but some problems

with correctly calculating this centrally have now been remedied. In addition, now the School has a MEng degree there is a significant (23%) increase in applications this year and this will allow the School to be more selective in its offer of places. SMSAS has a gap between the high tariff score for actuarial science and a lower score for maths. The School has been asked to look into this.

- *Recruitment*: Entry in 2010/11 was strong, with the ASNs Schools had requested being delivered; indeed in some Schools overshoots were delivered with the tacit agreement of the planning office (however Schools have been warned about the tighter controls for 2011/12). Applications in the current cycle for 2011/12 entry are again ahead of last year on average, with strong increases in EDA (23%) and SPS (particularly in Physics). All Schools have made viable bids for ASNs for 2011/12 and this is strongly supported as it will both help the Schools financially and help migrate numbers into the sciences overall. The original bids are given in the Table below and totalled 169. However, the planning round for all the Faculties produced bids which exceeded the total available and so the bids have to be prioritised. The Medway bids will be met in full but only 91 places have been given to the Sciences on the Canterbury campus. Adjusting the bids pro-rata gives the values in the bottom line of the table. If the University finds any further space in its cap limit we strongly ask that the original bids are met in full, starting with BioSciences, EDA and Computing (in that order) for budgetary reasons.

The bids for ASNs for 2011/12 are:

<b>ASNs 2011/12</b>	<b>BioSciences</b>	<b>Computing</b>	<b>EDA</b>	<b>SMSAS</b>	<b>MSOP</b>	<b>SPS</b>
Original bid	30	20 Cant. + 15 Medway	24	15	5 Medway (Kent contribution)	60
<b>Adjusted bid</b>	<b>18</b>	<b>12 Cant. + 15 Medway</b>	<b>15</b>	<b>9</b>	<b>5 Medway (Kent contribution)</b>	<b>37</b>

Note that most Schools, particularly Computing, EDA and Pharmacy would like to use Clearing to recruit students at above the tariff score level (and have done so previously) but need time in Clearing to do so, so not only do they want to enter Clearing in whatever form we run it, but also need to stay open for some period of days rather than having the system close early because other Schools overshoot.

-*Employability and Personal Development Planning (PDP)*: Schools have looked at how they rate in terms of how these topics as seen by the students. Interestingly, most Schools actually do a lot, even when they are perceived to be weak. Schools have agreed to take action to improve internal communications to minimise this mis-match of activity with student perception. Discussions at Faculty level have allowed best practice to be shared. EDA is seen as particularly strong in PDP and employer engagement, partly due to its professional accreditation specifically requiring these activities: sharing their methods with other Schools is underway. For example, employer visit days are being considered for next year by several Schools on the EDA model. Other examples of specific activities are: SPS has introduced some internships with industry during the summer for its Physics students courtesy of the South East Physics Network (SEPNET). And Computing place around 60% of their students on a one-year paid placement with a wide variety of private and public sector employers both in the UK and overseas.

#### *Specific weaknesses/risks relating to Learning and Teaching*

During 20110/11 some specific issues arose which are being dealt with.

- *Pharmacy*: The professional body qualifying exams taken 1 year after graduation had a low first time pass rate for the 2<sup>nd</sup> year running. This has resulted in extensive internal action in the School to improve things in the short term by changing teaching styles, adjusting the syllabus, increased work

ethic amongst students, offering more support in the year after graduation etc. In the longer term an increased entry via the normal UCAS route and an increased tariff score at entry (both of which are in-train) will also help.

-*SMSAS*: Just as it did last year, Psychology has again raised the issue of repatriating SP300 teaching from *SMSAS*, equivalent to loss of some 25 FTEs. Such moves are destabilising, especially as *SMSAS* has a specialist research group in the field covered by the subject matter of the module and the specific loss of this teaching somewhat weakens the role of that research group in the School plan. The outcome of this bid is currently unknown.

### **Post-Graduate Taught (PGT)**

The growth in PG numbers (now 18% of the sciences total student load on the Canterbury campus, and higher at Medway as a result of Pharmacy short course provision for professionals) that is currently occurring in some Schools is mostly via PGT courses. Where these have been revamped in a coherent way, or new programmes introduced in key topics, there has been significant growth (e.g. Computing and *SMSAS*). This has been accompanied by necessary estate works to provide suitable specialist rooms for teaching the various classes. Staff provision is also increasing in a phased way with the PGT provision. Other Schools are starting to advance along similar routes:

-*BioSciences* has withdrawn a poorly recruiting PGT programme and for 2011/12 entry is launching 2 new courses in areas building on core skills in the School.

-*EDA* is introducing a new Engineering and Financial Risk MSc (entry 2011/12) led by a new staff member who transferred from Kings College London and which links to the successful *SMSAS* programmes. A 2<sup>nd</sup> new MSc is also planned.

-*SPS* is revamping the marketing for the EuroMasters Physics MSc and is introducing a new (2011/12 entry) MSc in Forensic Science.

In addition, both *Computing* and *SMSAS* are continuing to exploit their recent growth in PGT with increased recruitment planned to those courses. In the case of *SMSAS*, a formal arrangement is being achieved for the Finance related PGT courses to be part of a Centre for Finance and discussion is taking place with Kent Business School to make this a jointly planned and coordinated activity.

### **Research & Enterprise**

At the end of 2010/start of 2011, research planning meetings (chaired by Pro-Vice Chancellor J. Baldock) were held with each School in the Faculty. The research culture and management inside each School was discussed, along with means to strengthen them. The ability of Schools to prepare for the 2013 REF exercise was considered (note that this was done School by School and not by potential UoA, whereas Schools may well submit staff to a variety of UoAs). Indications are that only one School (*SPS*) can already confidently claim to be planning a submission rate of >80% of its staff (the University goal). The other Schools (with 2 exceptions) are actively considering how they can increase their performance towards this goal. The exceptions are *BioSciences* and *Pharmacy*. In the case of *BioSciences*, the picture is complicated by the changes after the review in 2009/10. There is a turn-over of staff underway, and the new staff recruited will arrive this summer. In addition, some *BioSciences* staff will be making more of a contribution to the School on the teaching front with a necessary acceptance of a lower REF submission rate. In the case of *Pharmacy*, the School is still a young School (almost 7 years old now) and is continuing its journey. This journey initially focussed on establishing the teaching programme and then developing the research. As a result, research is now starting to grow, with an ever increasing % of staff being research active and currently reaching 50%. But this still falls short of the 80% target for the longer established Schools.

From the REF planning meetings one area that emerged where there is room for improvement is Research Management. All Schools do undertake some such planning, but this traditionally has generally been in an individual or ad-hoc fashion with Schools doing what seems best to them. For example, use is made of peer review of grants before submission (either inside the School or via the

Grants Factory), goals and aspirations are discussed individually with staff, some sabbaticals are planned with clear goals in mind and so on. But this could be more systematic. Further, in some Schools there is a barrier to recognising that research income is often lower than that needed to support the range of work planned, publication rates are often not considered against external peers, the quality of work is often judged by the researchers themselves without a context in which to place it, the numbers of PGR students and PDRAs is often judged by historical levels rather than what is required to support the desired level of research activity and so on. This issue has been taken up directly by the Faculty Research and Enterprise Committee. A current initiative is seeking to develop a more structured Faculty framework for research management which can accommodate flexibility in relation to the needs and characteristics of research in individual Schools whilst making the overall approach more systematic and making clearer the requirements needed to support the desired levels of research quality and activity.

On the Enterprise front, Schools continue to work with Knowledge Transfer Partnerships, although these are about to change their terms. Nevertheless, it is hoped to continue to grow this stream in partnership with the Enterprise Office. Indeed, we are now taking steps in the Faculty to support staff in improving generally their research/enterprise links, offering real opportunities to strengthen funding applications, enhance the REF narrative and stimulate the greater breadth of industrial engagement which will be necessary in the changing research environment. The recently announced closure of Pfizer (Sandwich) caused the Faculty to consider what it could do in that respect. A brochure of opportunities at Kent was circulated and BioSciences is investigating specific research activities. By coincidence the same day the closure was announced, the Faculty announced the launch of the new accreditation of post-graduate training at Pfizer that is organised through MSOP – discussions will take place to see if this will continue in some form.

Specific research investment has been made/initiated in several Schools during the year. BioSciences have won a large external grant to replace their NMR facility with a state of the art facility, and University support to assist this has been provided. EDA have received University support for a large scale project to refurbish and re-equip their anechoic chamber to retain it as a cutting edge facility. SPS has received University support to start replacing old equipment, such as their scanning electron microscope as well as obtaining specific new items to support growing research in the materials field. This is welcome support which starts to address issues raised by external funders when commenting on Kent grant applications. ***This process of renewal, upgrading of equipment is vital to continuing success in the sciences at Kent and therefore needs to continue.***

### **Financial position**

For 2010/11 FY, there has been significant improvement by most Schools. Schools are increasingly moving towards the goal of genuine RAM surpluses. This has been achieved in the main by increased UG entry, increased PGT activity, increased overseas recruitment and in some cases by vacant posts while we search for the right appointments. Research income has not increased so sharply. Figures that follow are based on the end of year projections in current (Feb 2011) budget statements.

School by School:

*BioSciences* – The overall budget goals for the current year was a small –ve amount, but this is being missed with currently a large projected –ve variance. The School is working to reduce this in-year but will still probably end the year with a –ve variance. The Centre for Molecular Processing has a separate budget and is heading for a +ve variance. The BioSciences position will worsen in 2011/12 without major action, so the School requests ASNs, is planning new better recruiting MSc courses, trying to recruit more from overseas and is reviewing floor space usage. The budget situation is made worse by the loss of the lab floor space credit in 2011/12.

*Computing*- The School has made excellent progress on its budget over the last year. The School was aiming for an absolute +ve budget in the current year and should exceed this with a +ve variance.

There are some differences between the strong budget position at Canterbury vs. Medway, but this is understood and in hand. In 2011/12 the projections show a deficit emerging in absolute terms, so the School requests ASNs and is trying to further strengthen its strong overseas recruitment at PGT.

*EDA:* The School is making strong progress on many fronts. It was aiming for an absolute budget surplus in the current year and whilst there may well be a –ve variance at year end, the overall position should still be a +ve absolute budget at year end. However, in 2011/12 a –ve absolute budget is forecast. The School therefore asks for ASNs, is launching 2 new MSc's and is aiming to strengthen overseas PGT recruitment. The budget situation is made worse by the loss of the lab floor space credit in 2011/12 and central support is sought to help improve some areas of teaching and research provision (see below).

*SMSAS:* The School as usual, has an excellent budget situation. Indeed their planned budget surplus was over 10% in 2010/2011 and will probably be significantly exceeded. Even in 2011/12 the School is predicted to have a >10% absolute budget surplus. This is not healthy. The main bottle-neck to growth in the School is floor space being so limited. A solution needs urgently to be found.

*MSOP:* The budgets for MSOP are agreed via a joint planning route with Univ. Greenwich. The School maintains tight budget control and is on track to deliver its planned budget.

*SPS-* The School has made excellent budget progress in recent years. For 2010/11 it is aiming at a >10% absolute budget surplus and is on track to hit this. In 2011/12 the School will only have a small +ve absolute budget surplus. To improve upon this the School requests ASNs (which can be accommodated in the labs to be refurbished this summer) and is launching a new MSc in Forensic Science. The School is also trying to increase its overseas recruitment. A large surplus in the current year is not healthy. The School needs to have support for increased spend on research and teaching equipment to maintain and improve its strong research and teaching performance. This situation is made worse by the loss of lab floor space credit in 2011/12. Accordingly, central support for teaching needs is sought (see below).

*Risks:* The RAM is difficult for lab based science subjects with high staff levels. Floor space and capital charges are very critical for these disciplines and increases in them hit the Schools hard compared to those non-lab based disciplines. If these are the funding routes the University favours then they need to be strongly controlled as they preferentially hit lab based science subjects.

*Requested central support for strategic purposes:* The withdrawal of the laboratory floor space credit has hit BioSciences, EDA and SPS hard and is causing problems. Some specific issues arise relating to lab based teaching and teaching needs in general:

*BioSciences* requests £100k for new equipment to refresh its UG teaching lab equipment as part of its refocus of its degree onto core biology research related activities. It also asks for a further £30k to extend its library stock, partly for UG needs and also to serve the two planned new MSc courses currently being introduced.

*EDA* requests central support of £65k + VAT to help reorganise its file server system to support student and staff work. They also request a further £100k + VAT for teaching lab experiments particularly in the growing engineering field. For example, for the two control modules (core modules for accreditation) control experiments are needed to add to the existing simulations. There are other modules which need more experiments or for experiments to be updated to follow current industrial practise.

*SPS* wishes to re-equip their teaching lab with new equipment (to go in the refurbished labs) and need £111k + VAT to do so (a detailed list of equipment was in the SPS annual plan and has been supplied by the School to the Dean).

**These are requested as central support for 2011/12.**

## **Internationalisation**

The Faculty continues to look overseas for a wide range of its activities. Recruitment of new staff often includes a European or inter-continental element. Video conferencing when interviewing overseas staff is now routine for example. Staff travel overseas for research (visiting collaborators or to use international facilities) and for attending conferences etc. as a matter of routine. Similarly, overseas collaborators routinely visit Kent.

Student recruitment from overseas is a strong feature of the faculty, rising to 20% of intake in 2010/11 in Canterbury (whilst much lower in Medway due to subject mix). To increase this Schools are starting to participate in the International Foundation Year (Computing and EDA are recruiting via this route in 2011/12) and the International Masters (e.g. Computing). Individual Schools are sending academics abroad to assist in recruitment (e.g. Computing sent staff members to India and China).

Exchange programmes and 2+2 degrees have also been set up and continue. New in 2010-11 is an exchange programme with ILSER-PUNE in India, sponsored by the British Council. The first students will arrive in the UK for visits in summer 2011 and some are expected to spend a month at Kent. The Faculty also participated in links with our new US partner, Virginia Technical University (VTU). Although the associated grant bid to the British Council was un-successful, we have been visited in 2010/11 by the President of International Affairs and the a senior member of Physics from VTU. In turn, the Faculty Administration Manager visited VTU to see how they manage large research projects. At the individual researcher level, Kent hosted several visits by a space science researcher from VTU. It is via individual exchanges at this level that long term research collaboration is sustained, so to forge more such links a video conference is being planned between Kent and VTU academics for summer 2011. VTU has also been added to the list of approved sites for our UG students to spend a year as part of their 4 year degrees with a year in the USA (for example, SPS sends typically 4 – 6 Physics UG students to various US universities each year).

Overall, regular meetings and close liaison with staff from the International Office is benefiting the Faculty and its Schools in their goal of a broader international presence.

## **Cross-discipline activities**

The Faculty has long recognised the need for cross-disciplinary activities in both teaching and research. On the teaching front, several Schools collaborate on a joint Foundation year (EDA, SPS and SMSAS). This could be further extended to a more common Foundation year serving degree programmes in the Faculty and this will be investigated in 2011/12. By contrast, only a few undergraduate course share modules as these are almost all subject specific courses inside individual Schools. However, there is an emerging trend at PGT level to share teaching across Schools. EDA are launching a new MSc for entry in 2011 which will feature some modules from SMSAS. This is in the area of engineering and financial risk. This builds on the SMSAS success in the area of finance and risk at PGT level which in time may grow to a cross-faculty activity in a centre of its own (see earlier). And during 2011/12 a new PGT MSc is being developed by the Centre for Molecular Processing (CMP) which will be cross-disciplinary.

There are two active cross-disciplinary research centres, CMP and the Centre for Biomedical Imagery (CBMI). The third centre, the Centre for Cognitive Science and Cognitive Systems does not seem to have been very active in recent years and this will be looked into by the Dean with a view to recommendations about its future.

In the case of CMP there has been great activity. The CMP was founded in 2009 for a 5 year period to stimulate research in the field of molecular processing, building links between BioSciences,

Computing, EDA and SMSAS. Its specific goals are to raise £5 in external research grants and obtain external support for a new building. New grants already won (total value £2m) include several which involve staff from more than 1 School (value £0.6m) and others won by individuals who in their grant applications described the work as part of CMP (value £1.4m). There are other grants applications in submission including a multi-applicant EPSRC LOLA grant for £2.5m which has passed the first stage review.

CMP has not been successful so far in raising external funding for a new building. A new effort will be made to the Wellcome-Wolfson capital awards scheme in autumn 2011. There is an ongoing commitment from the University to match this with a £2m internal investment and this needs to be remembered in planning. In the meantime a new Professor has been hired as part of the BioSciences recruitment round who will work in the CMP field. Similarly, EDAS have hired a new lecturer whose work overlaps CMP interests. There is also an application in for a Leverhulme Early Career Fellowship to work in the centre. These posts are in addition to the existing CMP related lecturer and support from Prof. Smales's research group manager and the individual staff members who are in the various Schools in the faculty. There is thus a ***need for a physical space to serve as a focus for activity and help CMP move to the next level***. This is initially envisaged as a set of offices (2 or 3) for the staff who work in the centre full time plus a large open plan office for hot-desking by the staff based in other Schools. Access to a nearby seminar room for regular meetings is also needed. If space can be found in the Stacey/Ingram building complex this would be ideal.

CMP is also planning to develop a new PGT course for entry in autumn 2012. This would focus on modelling of biological systems and would use some existing modules from various Schools and would need some new modules to be prepared. As part of this development, a financial model needs to be prepared which reflects the CMP vs. individual School role.

During 2011/12 the Dean will help CMP focus and deepen its activities, offering advice and support.

The CBMI has also been active in 2010/11. It held a seminar in 2010 and helped staff form links which lead to grant applications. More of this is envisaged. The MSc in Biomedical Imaging which was run from BioSciences for several years is now being withdrawn by that School due to low recruitment. This had been a vehicle for staff interested in CBMI to come together and some new framework for collaboration between staff needs to be found in 2011/12. Accordingly, in 2011/12 the Dean will ask CBMI to look at its goals in order to strengthen itself. The Faculty Research and Enterprise committee will also look at CBMI.

### **Staffing**

Over the last year, all Schools have continued to recruit new staff. Many of these posts are new and reflect growth in the Schools. Briefly:

*BioSciences* has made 4 appointments (1 Professor and 3 lectures) whilst several staff have left or are leaving. In addition, another senior post is still being recruited to.

*Computing* filled its Professorial post advertised last year and is now searching for a Reader level appointment to be based in the Medway.

*EDA* has added a lecturer who transferred from Kings College London, plus a new lecturer in engineering.

*MSOP* has been seeking to fill 2 Professorial level appointments. However, there is difficulty in finding senior staff in the relevant areas and the search is on-going. The School also tried to appoint a lecturer and this search will also continue.

*SMSAS* has added 2 posts to help teach its expanded PGT provision.

*SPS* has recruited a new lecturer in Forensic Science.

The on-going process of identifying new posts for recruitment will continue in 2011/12 in the normal round as dictated by need and sustainable budgets.

### **Athena Swan**

We have now signed up for Athena Swan recognition. The Dean is Chair of a working group which meets regularly and is reviewing activities in the Schools to aid equal opportunities for female staff members to reach their full potential. It is envisaged a full submission will be made for an Athena Swan award in Autumn 2012 reflecting the work now underway (this is a normal time line for such an award after initial registration). So far in 2010/11 a review of the statistics of female staff has been performed and bench-marked against peer groups elsewhere as well as the sector averages. Next a similar review of undergraduate admissions and progression will take place. In parallel, an action plan of all areas to be covered in the next 2 years is being prepared. This work is being strongly supported by HR.

### **Faculty level support**

The Faculty administration has undergone a reorganisation along with that in the other 2 Faculties. A single structure has mostly now been put in place, built around activities (e.g. QA etc.) rather than having 3 separate faculty admin teams for each task. As a result, the layout of staff offices in the Deanery may soon change to reflect this integration of activity. We still maintain a Faculty Administration Manager for each Faculty and a PA for each Dean. These serve specific faculty level duties.

During the current year, progress has been made on several fronts in respect to providing a better Faculty level support to all Schools within the Faculty. The most innovative of which is a series of Special Interest Groups that are devised to bring schools together to work with Central Services on improvements in regard to marketing, finance, staff management, UG and PG student services. These groups are chaired by School Administration Managers and are already proving to be beneficial by making a significant impact in respect to sharing good practice e.g. use of social media, and lobbying for change e.g. adjustments to the Agresso system. It is anticipated that these groups will eventually feed into process development within their respective areas of expertise.

The Business Process Library and use of Triaster software has been a focal point for the Faculty Administration Manager during the year. The creation of the library is now fully complete and work is taking place to populate the system with detailed process maps that will provide a central point of reference for end users. It is anticipated that the Faculties Support Office will significantly benefit from this system, and best practice will be combined to present user friendly quality assurance processes that are applied in a consistent manner.

A Client Services Charter was devised by the Administration Managers Group in 2010 and has been applied in several schools. The focus of the Administration Managers Group will be to roll this Charter out and measure their School's customer service performance against it. The Charter is thought to be very important in the context of serving a range of stakeholders but not least because it is anticipated that student expectation will rise in the future with the introduction of higher fees.

In terms of academic support, recently the Faculty Administration Manager went to Virginia Tech to review the business model applied to the creation and development of multidisciplinary research centres. A report has been written and distributed which outlines two fundamental approaches and a series of recommendations in the context of Sciences at Kent. In addition, the Faculty Administration Manager is currently collecting and analysing workload allocation model (WAM) data from each school in sciences to produce a common WAM sciences framework. Both projects are

excellent examples for how the administrative support is been used strategically within the Faculty of Sciences.

### **Management of academic staff**

All Schools now have School specific Workload Allocation Models. These vary in sophistication. The Head of each School presented their model at meetings of Heads of Schools during the year. A report is being collated detailing the similarities of the models with recommendations for strengthening them. Schools are increasingly using these as management tools to help allocate duties. The guiding principles are: all feature research, teaching and administration, they should be transparent and staff should be able to see their own entry plus averages for other staff. In addition, following the appointment of faculty specific HR staff, Heads of Schools are liaising increasingly closely with HR on staff issues as necessary and this is proving welcome and beneficial.

### **Risks**

When identifying risks, the goals are to prepare for the foreseeable whilst developing flexibility to respond to the unknown. There are key foreseeable risks in the near future and these are listed below, followed by actions/plans on each item.

-(i) *Fees*: The new UG Home fees regime is still exceptionally vague. We do not know our own fee level, nor the degree of HEFCE support for expensive subjects (or indeed which subjects will qualify), nor the manner in which applicant behaviour will be altered by the new system. Yet the applications will start arriving in mass this September. Worse, existing students already on course on 2-year Foundation degrees (plus entrants in 2011) who were expecting to subsequently enter full degree programmes at year 2 level (e.g. in Pharmacy) will be under the new regime.

Actions: Schools have been asked to identify strong points relating to teaching provision, to build on these strengths and to make these clear on their web sites. They will also consider the whole student experience on their degree programmes and emphasise the value (in terms of intellectual gain, employability etc.) to students and applicants (again using the web at School and University level, plus external sites such as Unistats). The progression of students from Foundation degrees to on-going degree programmes may be covered by *hefce* letters.

-(ii) *Research consolidation*: Research Council funding is in difficulty. It is under pressure due to low grant success rates (e.g. STFC is now failing to award grants to world leading ranked applications). Budgets are being cut. Admin support at RCs is being cut. This will result in grant application management, reduce research money available for grants income and influence future QR settlements. There may also be increased reliance on Doctoral Training Centres (DTCs).

Actions: Increased research management will be a feature of all Schools. This will involve more mentoring of staff and grant applications, consolidation of research activities into more successful and sustainable groups, linkages to groups elsewhere in strategic partnerships, investment in necessary posts and infrastructure, increased emphasis on enterprise activities. Schools should also already start considering how they can form DTCs, and if external partners are needed, who they might partner with.

-(iii) *Senior level recruitment*. Experience is showing that whilst recruitment of new faculty members is strong at lecturer level, there is resistance to recruitment at professorial level, particularly in some fields, e.g. Pharmacy and BioSciences. In the former case expansion of the section means there are probably not enough experienced staff out there.

Actions: Schools will become more pro-active in recruitment of senior staff and in profiling the successes of their Schools amongst their peers. Possible pools of applicants will be identified at the job approval stage and approached alongside the open advertisement (but this will need to be consistent with best HR practice).

-(iv) *Sustainability*: As things change and for example new income streams become more significant such as PGT and overseas recruitment, Schools will need to pay attention to avoid creating new critical dependencies.

Actions: Schools will need to develop expertise and apply resources to areas such as marketing for overseas students, facilities for growing PGT numbers etc. This will be supported by faculty initiatives.

-(v) *Leadership*: More intangibly, there is the issue of Leadership. In times of change, leadership at all levels is vital. Schools will need to make sure that no one at any level of management is drifting otherwise they may miss vital changes.

Actions: Training in leadership skills will be sought for staff at School Director (L&T, Research, and Graduate Studies) level or for those contemplating such roles.

(vi) *Library periodical provision*. The way library budgets are calculated is dated and no longer reflects usage, particularly regarding journal provision. The attempts by Information Services to address this have been welcome, but have led to major perturbations to budgets during the year and it is not clear if these are actually based on usage (self reporting was used in one case). At the moment some Schools are pulling out of provision, others are making local arrangements outside the library, one School was suddenly faced with a £20k jump in cost (reduced to £10k for this year), etc. This is not satisfactory. It is vital that a robust, transparent, fair system is put in place for 2011/12.

Actions: Information Services have been asked to develop or acquire a system to monitor actual journal usage and in addition to consider a major revamp of the system of charging for journals or packages used by more than one School. This needs to be in place before we start the next budget year.

## Critical Risks

The single most critical common risk raised by many Schools is space. For example, the vision of high quality student experience needs to include student rooms and space in every School. Similarly, PG students need common room space in every School. If we are to recruit new staff we need offices and research space for them. And where buildings are now aging we need to make sure they are refurbished both inside and out, in order to maintain a high quality working environment. Some progress is being made on these issues. For example, the Ingram Building has a major internal refurbishment of its teaching labs underway for spring/summer 2011.

However, several serious problems still exist:

-The exterior of the Ingram building appears in poor order.

-The interior of the Stacey building needs urgent attention (including lectures theatres such as BLT1 and BLT2 which are used by students from across campus all day).

-Jennison entrance and foyer are dated, dark and forbidding – not at all student welcoming.

In addition, two centrally timetabled teaching areas inside School buildings need urgent attention

-Jennison Lecture Theatre 1 is still very user unfriendly, in poor repair in parts (e.g. old seating) and needs a proper disability accessibility audit.

-BLT1 and BLT1 inside the Stacey building are in need of renewal.

***The single worst example of potential failure is SMSAS.*** In this School they are about to run out of space. After this year they will not be able to house any new staff (academic or admin). The space they offer to new PG students will not be inside the School, but will rely on provision by the Graduate School (impinging on School identity and alumni loyalty) or be elsewhere on campus. Indeed many of their PGR students are already office'd in Darwin. Similarly, the growing PGT provision in finance and risk will be at risk of ceasing its expansion as the School will not be able to expand its staff (academic or admin) appropriately. Nor will they be able to provide the facilities that a growing cohort of high fee paying overseas students will increasingly expect (e.g. adequate support and study space inside the School etc., simply saying “go to the library” doesn't work). SMSAS has great growth potential, but this will be thwarted by the space limitations meaning that the School will no longer be able to grow.

All these issues have been notified to Estates and the Teaching Room Improvement Group as appropriate.

## Five-ten year forward look

In terms of planning future developments, it is instructive to ask what we want the Faculty to look like in the mid-term future. This then tests whether current plans are sufficient to take us in the right direction. In such a vision, all Schools would move towards at least 40 Faculty members. They would have large, high tariff entry UG programmes, balanced by having at least 25% of the total student body at PG level. In addition, 20% of the student body would be from overseas. The Schools should offer a high quality student experience, such that their graduates have excellent employment opportunities or be able to proceed onto higher degrees upon graduation. The PG provision would include both PGT and PGR in every School. Regarding PGR, Schools are aware of the need to establish Doctoral Training Centres as these increasingly become the norm in each discipline. The Schools would have sufficient admin staff to provide both local services and School-specific strategic planning. The Schools would all be in absolute RAM surplus. The results from REF2013 should represent an improvement in terms of: all Schools to have at least some of their score at 4\* level, all Schools to have increased their grade point average from RAE2008, all Schools to have increased both the fraction and absolute number of staff submitted (compared to RAE 2008). In addition, the Schools should be housed in well appointed School buildings, with room to support their activities.

## Strategic Investment

To assist the Faculty achieve its goals, there are areas that require investment on scales beyond current budgets, or which lay outside current School budget arrangements.

**REF:** The 2013 submission date means that investment is needed now if it is to have significant impact. In some cases this may mean staff posts to add extra weight, make a field sustainable (i.e. improve the environment by demonstrating a long term commitment) etc. In other cases it means purchase of big ticket equipment to show investment in the sciences for the long term and to enable rapid progress in selected areas for the current REF.

Key areas are:

*BioSciences* – The School will need assistance over a 5 year period to maintain cutting edge laboratory equipment. They request a ring-fenced fund into which £75k a year is paid and which can be used in an amortised way to pay for new/replacement research equipment. Regarding staff, the current recruitment round is almost over although one senior post remains to be filled. These new posts will invigorate research in the School.

*Computing:* The best investment would be in bringing in a strong research team from elsewhere or else several individuals to support existing research strengths (especially where good staff members are isolated (computer security) or to have bridging-the-gaps appointments (e.g. in computational neuroscience).

*EDA:* The School can grow rapidly in the short term if key researchers already present were provided with post-doctoral assistants. This would accelerate research programmes such that they would deliver high quality outputs for RAE2013. Strategic investment in 2 or 3 three year post-doc positions would achieve this. In addition, specific investment in new CO<sub>2</sub> flow measuring rigs would help develop research in an area which is rapidly growing at Kent and where the key researcher (Prof. Yan) was internationally recognized in the last year with a prize (for sustainable engineering) and a IEEE (professional society) Fellowship. An immediate solution would cost ~£115k + VAT.

*SMSAS:* The key need for SMSAS is to solve its space issues which are the major limit to growth.

*Pharmacy:* Investment in key facilities such as a confocal microscope would help the School grow its research. The School continues to search for leaders in research to appoint to already approved senior posts.

*SPS:* The materials group has bottlenecks still which can be removed by investment in new apparatus, e.g. a new Raman spectrometer (£250k), blades for the computer cluster £40k (which would also assist modelling in Astronomy) etc. Kent has been explicitly criticised in external grant reviews for lack of investment in such apparatus in recent years so there is an on-going need to address this. In addition, there is an opportunity in Forensic Science to establish a major research presence at Kent.

There are outline proposals/plans that for any REF after the current one, there would be a sub-panel with Forensic science responsibility as a named subject. SPS has a range of forensic activities at present, but no central theme or large grant winner. Establishing such a research presence would be a good investment for future growth in areas related to Forensic science and security for example. Therefore a senior post in this area would be beneficial.

**Infrastructure (Estates):** As well as the normal estates related activities there are 3 major proposals that exceed individual School plans but which are vital to long term success.

- (1) The Ingram building (housing mostly SPS and some BioSciences) is badly in need of exterior refurbishment. Its fabric is peeling off in some places, windows are increasingly warped in their frames and have to be sealed. It is the least energy efficient of all major buildings on campus and has the lowest possible rating in the national energy efficiency scheme whose results are displayed in the foyer of every building on campus. And as well as this, it is an increasing eye-sore for visitors, UG applicants etc., so is negatively impacting the campus as a whole. This is a very urgent priority.

- (2) The interiors of Stacey building and the Stacey/Ingram link building. Unlike Ingram itself, the interiors have not been extensively refurbished for many years. BioSciences paid towards a foyer paint-job last year to urgently improve matters, but can't (and indeed shouldn't) fund a whole building refurbishment. The state of the building is increasingly generating adverse comment from visitors, UCAS applicants and their parents etc. There is a clear urgent need to improve this.

- (3) Jennison front entrance, entry lobby, social area and new lecture theatre. EDA have commissioned a study which they sent to Estates showing how a major refurbishment of this area would significantly alter the perception of an increasingly tired building and provide better use of space both inside and in front of the School.

Estates have been informed of all these needs and carried out preliminary costings and prioritisation against other needs. Nevertheless, these are urgent matters for the Science faculty.

## Summary

The Faculty continues to make good progress. There are some excellent external indicators of quality at Kent (e.g. recognition of individual academics by prizes and professional body Fellowships) plus we continue to recruit strongly at UG and PG levels. In these difficult times of budget pressures, Schools are in the main responding strongly with many new initiatives. The quality of research continues to improve in general. And as indicated in the discussions above, areas for continued progress are not only identified but often successfully followed up on. Computing and SMSAS for example, show the benefits of revamped and refocused PGT courses in 2010/2011. Inside EDA, the continual emergence of engineering at Kent from its historical focus on just electronic and electrical engineering is welcome and meeting national needs. SPS has emerged as a strong provider of Physics education, backed up by excellence in its growing materials research group. SPS is also putting the final pieces in place to be a major one-stop centre for forensic science, all the way through from foundation year entry to degrees, to research and enterprise activity in the field. And Pharmacy is aiming to strengthen its research presence.

Meanwhile, the main short-mid term problem will be space for SMSAS and more generally across the faculty getting the building infrastructure into better shape, along with investment in equipment and continued hiring of new staff.

Overall, as stated, the faculty is making good progress and this needs to be maintained in 2011/12 along with solid preparation for 2012/13.