

**UNIVERSITY COLLEGE CORK  
NATIONAL UNIVERSITY OF IRELAND, CORK**

**QUALITY IMPROVEMENT/QUALITY ASSURANCE**

**PEER REVIEW GROUP REPORT**

***SCHOOL OF BIOLOGICAL, EARTH & ENVIRONMENTAL SCIENCES***

**ACADEMIC YEAR 2011/2012**

**Date 8<sup>th</sup> March 2012**

## PEER REVIEW GROUP MEMBERS

Name	Position/Discipline	Institution
Professor Alistair Borthwick	Civil & Environmental Engineering	University College Cork
Professor Richard Cogdell	Glasgow Biomedical Research Centre	University of Glasgow
Professor Kerry Gallagher	Geosciences Rennes	University of Rennes
Ms Mary McNulty <i>Rapporteur</i>	Career Services	University College Cork
Professor Stephen Phillips <i>Chair</i>	School of Life Sciences	University of Glasgow
Professor Michael Williams	School of Natural Sciences	National University of Ireland, Galway

## TIMETABLE OF THE SITE VISIT

The timetable for the site visit is attached as Appendix A.

The Peer Review Group (PRG) found the timetable to be very full and appropriate. The PRG added three additional interviews to those arranged by the Quality Promotion Unit (QPU) and the staff concerned came to see the PRG at short notice and provided valuable additional comment. Some of the additional interviews were held in the PRG's lunch and coffee breaks. The PRG takes this opportunity to thank Dr. Norma Ryan and the QPU for the splendid organisation of the visit. No time was wasted and the logistics worked perfectly.

## PEER REVIEW

### Methodology

The PRG appointed Professor Stephen Phillips as its Chair and Ms Mary McNulty as the Rapporteur. Professor Phillips made it a matter of record at the beginning of the review process that he has had a long association with UCC. He first came to Cork as an External Examiner in Zoology in 1987. The PRG worked as a team for the meetings with the School as a whole and for meetings with the senior officers from the University, the College and the School. Meetings with groups of students and with members of staff across all areas of the School were carried out with the team divided into pairs or trios. The whole PRG toured the School's facilities and the University Library. Areas of specific responsibility for each member of the PRG were agreed at the beginning of the visit and are set out below. The chair and rapporteur put together the draft final report incorporating individual sections drafted by members of the PRG for their areas of responsibility.

### Areas of Primary Responsibility of Each Member of the Peer Review Group.

Name of Individual	Area of Responsibility
Professor Alistair Borthwick	Staffing/ Staff Development Finance Work Allocation Model
Professor Kerry Gallagher	Students External Engagement Benchmarking (shared)
Professor Richard Cogdell	Research Work Allocation Model Benchmarking (shared)
Ms. Mary McNulty	Buildings and Environment Communication
Professor Stephen Phillips	School Organisation and Planning SWOT Analysis
Professor Michael Williams	Teaching and Learning Curriculum Delivery and Development

### Site Visit

The visit to UCC and the School of BEES gave the team an opportunity to have a reasonably comprehensive coverage of all activities of the School, and to extend the information provided in the Self Assessment Report (SAR). The team visited two laboratory classes and toured the research facilities which gave it an impression of the level of activity therein. The team did note, in its tour, patchy indicators of the research conducted in terms of posters on display and no references to forthcoming seminars and research discussion groups. The meetings with senior officers of the University indicated that most but significantly NOT all of them were on top of their jobs or responsibilities, and were able to give the PRG an excellent oversight of their contribution to the University, the problems they faced, and the current and future planning. It was noticeable that senior College and University officers spoke in praise of the School in all aspects of its activities and as a good example of a progressive School in the new structure of the University.

## **Peer Review Group Report**

The members of the PRG provided written reports on their allocated areas of responsibility and these were incorporated into the draft document with some editing to provide a consistent style by the Rapporteur and the Chair. The first draft was prepared within a few days after the PRG had returned to their home institutions. The draft was then circulated to the members of the PRG for amendment and approval.

## **OVERALL ANALYSIS**

### **Self-Assessment Report**

The PRG was well aware that the School was only formed in Dec 2010, and that necessarily the School was still bedding in. The SAR was expertly compiled and generally followed the guidelines, was very well presented and gave an excellent overview of the new School in terms of its structure, functioning and aspirations. The PRG congratulated the team responsible in the School for preparation of the SAR. The history of the subject disciplines which now form the School was described and put the formation of the School into a context of the constituent parts which was very helpful to the PRG.

The SAR generally covered all the areas required for the PRG's review. Such omissions identified by the PRG were mostly rectified on request. Most notably there was insufficient information on the individual academic staff member grant income into the School (or previous departments) in the past 5 years. Individual teaching loads were also not provided but the Work Load Model (WLM - data yet to be confirmed) indicated that no academic staff member had a light load and a few had loads which were extremely high. Also, the role of technical staff was not evident in the report, but we understand this is because it is currently being revised. Explanations were sought in a small number of areas, including the basis of the draft Work Load Model.

The SAR is generally upbeat in its assessment of its current position, the quality of its teaching, the experience of the students, both undergraduate and postgraduate, under its care, the quality of its research and maintenance of its research income, and the benefits of refurbishment of the teaching and office accommodation at Distillery Fields. In spite of the effect of the Irish economic downturn on core funding into the university the School was at least maintaining its position in all aspects of University activities.

The PRG commends BEES on its optimistic tone in the SAR in spite of the difficult economic background. A consequence of the financial position has been that promotions and rewards have been suspended for some time and this could only be very demoralising for ambitious and hard-working staff.

## **SWOT Analysis**

The SWOT exercise had previously been carried out at an away morning at a local hotel and had been moderated by an external facilitator from Nottingham University. The detailed report suggested that most members of the School's staff felt able to unburden themselves of their frustrations and concerns but still be positive for the future of the School. There was a strong consensus on eleven areas to be addressed for improvement. None of these areas would have come as a surprise for the School's Management Team but the SWOT exercise rightly gave the School collective ownership of the strategy for improvement and moving the new School forward.

The PRG recognised the value of the SWOT exercise as a means of developing collegiality and providing an open and relaxed forum for constructive criticism and advice for all members of the School. The PRG would agree that the areas identified for improvement were correct and these will be referred to elsewhere in this report. The PRG would not recommend that the exercise is repeated in the medium term.

## **Benchmarking**

Four benchmarking institutes had been chosen by the School to provide comparisons of the disciplines covered by the School. Senior members of the relevant disciplines (including administrative and technical staff) from the School visited these Institutes. Zoology and Ecology disciplines were benchmarked with the School of Life Sciences and the Institute of Biodiversity, Animal Health and Comparative Medicine, University of Glasgow. The Geology discipline was benchmarked with the School of Geographical and Earth Sciences, University of Glasgow. The Plant Sciences were benchmarked with Plant and Crop Sciences Division at the University of Nottingham. The discipline of Environmental Sciences (including Environmental Management) was benchmarked with the School of Environmental Sciences at the University of East Anglia.

The PRG thought that the choice of the University of Glasgow for benchmarking of Zoology and Ecology was not helpful because in the past 2 years Glasgow had undergone a major restructuring exercise whereby teaching was the responsibility of Schools and research was conducted through Institutes which made comparisons with BEES unhelpful and misleading. As BEES had sent staff to Glasgow it was surprising that this problem had not been recognised during that visit. The benchmarking of the Earth Sciences at Glasgow with BEES was better although again it was not a like with like comparison. Nottingham and East Anglia were suitable benchmarking departments.

BEES does compare well or lead in some areas with the benchmarking departments. However, differences should not necessarily be used to justify change (e.g. adding more taught MSc courses). For example research income in BEES may compare well with the valid comparators but the fact that major income earners come from only 30% of the academic staff in BEES shows that improvement is possible.

The PRG believes that the benchmarking exercise is valid and instructive but an alternative to Glasgow for Zoology and Ecology should be sought. The School is fairly unique in the Geological context of Environmental Science as most other combined disciplines tend to combine Geology with Geography rather than Biosciences. An alternative to the current approach of seeking a single benchmark partner might be to consider several possibilities and undertake the exercise remotely (via email) and then to choose an appropriate institution to visit, if required. This would make any conclusions more robust and mitigate against single mismatches as identified above

## **FINDINGS OF THE PEER REVIEW GROUP**

### **Department/School Organisation & Planning, and Governance**

The Head of School was appointed in the Spring of 2010 and the School came into being in December 2010. A robust management structure was set up with the School Management team as the fulcrum supported by 11 specialist committees, and including where appropriate representation from the student body, administrative and technical support staff. Ultimately the final decisions rest with the Head of School advised by the committees and management team. A new post of School Manager was created and filled in 2011 and the impression of the PRG is that this has been a very successful appointment. It is very evident that BEES has been very fortunate to have a Head of School who leads from the front, is respected in the School, the College and the University, and that progress made by the School in the short period of its existence would be significantly less without this leadership. The PRG had major concerns regarding the work load carried by the Head of School. The PRG had concerns that the dynamic leadership at the School level is not emulated down at the level of all of the Disciplines, which adds to the urgency of new appointments of subject Chairs. While the PRG recognises that membership of committees is an important route for training for senior academic positions and promotion, and for raising staff morale through an inclusivity in the decision making process, it believes that important time can now be gained by reducing the number of committees by consolidating the work of some committees into a single committee . The issue of membership could be dealt with by having some positions as rotating during the lifetime of a given committee composition, to allow more than one junior staff member to gain the requisite experience.

The PRG noted that the Head of School frequently referred to his colleagues as team members.

### **Teaching and Learning**

Generally most students that the PRG talked to were happy with the quality of teaching they received in the School with the possible exception of some aspects of the Plant Science curriculum where it was thought there should be more of an emphasis on plant content.

One of the strengths of the School teaching programme was the fieldwork. This should be rigorously sustained by the School. Students confirmed that this was a popular and worthwhile part of the teaching programme. Several students, however, made the point that this year three field trips were to be held in the same two-week period, and apart from the demands on them academically, the cost was significant. Students were not aware that the School subsidised the costs of the field trips. The students accept this as a fact of life however, the PRG would ask the School to keep costs to a minimum and inform students that the School bears a stated percentage of the costs.

*Recommendation:* The PRG felt that the School should subsidise field courses as far as it was able. Additionally, to ease the pain of lump sum payment, consider an instalment system (where a student pays X % of the total every Y weeks). It was also felt that the use of research students for demonstrating in practical classes and field trips in BEES should be consistent with usage in other cognate Schools including payment for or otherwise for their time.

There was a comment from students that the use of Blackboard resources by staff in teaching was inconsistent. If staff found that uploading resources to Blackboard was taking up too much time PRG suggest that it might be possible for one (or more) of the administrative staff to be assigned the role to do this if necessary.

Students felt that in some instances the turnaround time for assessments was not consistent across the school. In programmes involving continuous assessment a rapid turnaround is essential. PRG was told that a 4 week turn around maximum had been agreed but this had not always been honoured.

*Recommendation:* That students have feedback on the timescale they have been informed of. One possibility is to return model answers rapidly (just after the submission deadline), if appropriate for the material, so then the students can assess themselves how they did.

In terms of teaching experience, there was a feeling that 1st year needs attention, and in particular the courses required, overall course structure and timetabling of lectures and practicals (this latter point was raised by all years). Some of BEES' 'students' felt undervalued in other departments (Maths, Chemistry - course content not relevant – should this be taught later in the course and/or explicitly for BEES students; not necessarily face to face, but as tutorial/exercises perhaps). There is a major problem of the timetable not taking account of the fact that the Distillery Field site is 15 minutes walk from the main campus.

*Recommendation :* try to convince the external departments to consider the needs of the BEES students (have a contact person in the external department to ensure the BEES students are on the appropriate mailing lists from each other department such that, for example, they were informed when lectures are cancelled).

Computing facilities need attention – it seems there is a significant number of machines that do not work.

*Recommendation:* look to upgrading the equipment and furniture in teaching rooms.

Although the School aspires to increasing its international student numbers, at the moment the proportion of such students in the School's student quota is relatively small. The PRG felt that the School might explore the U.S.A as a source of international students as well as the more recently favoured Far-Eastern areas. It was noted that a potential MSc course projected for next year would indeed target American students. International students commented particularly on the accessibility/availability of staff, in contrast to their home institutions. The School is committed to growing student numbers, including the international cohort.

*Recommendation :* international students (both Erasmus and beyond) could be targeted more aggressively in future and could provide a good source of quality graduate students. The School should try to have representation on international affairs committees and take an active role in the marketing/recruitment processes at the UCC level and actively continue to explore setting up novel joint programmes with non-Irish universities. This should be dealt with in combination with the international recruitment unit at UCC. Staff participating in conferences overseas could contact departments of their discipline in the local universities and offer to give seminars as a means of advertising the School and supplementing the work of the international recruitment unit.

The PRG noted that the School provided 8 full or part-time undergraduate programmes. It also noted that a contribution was made to another 15 programmes of various sorts. Additionally it had two taught Masters programmes and planned another two such programmes for 2012-2013. Part of the School's teaching is directed to Adult and Continuing Education. This can serve as a useful recruitment tool, but the PRG had concerns at the proportion of time involved in teaching and teaching related matters to the detriment of research and research funding time.

*Recommendation :* The school should explore more time-efficient approaches to teaching, such as teaching some courses every two years (and combining classes, so that 3rd and 4th year students are in the same class), more learning based approaches in which students work at their own pace and have tutorial type interaction with a lecturer, rather than the more traditional stand up lecture.

It became clear in conversations with various elements of the University that research was considered a major funding stream for Schools and that as core funding from Government to the University was progressively cut this had to be offset by increased income from research activities. In data and opinions from the SAR and from the School it was apparent that some staff found that their workload was excessive and that a heavy teaching load would

interfere with the ability to apply successfully for research funding. It is essential that the research profiles of some parts of the School be improved considerably.

*Recommendation:* The number of modules offered by the School should be reduced so that teaching loads can be reduced and consequently time be released for focussing on the research effort. Whilst it is appreciated by the group that over the short term this may reduce teaching FTEs somewhat, in the long term it is in the School's interests that research becomes a more significant source of funding. As well as reducing the amount of teaching the School might also like to consider concentrating teaching of individual staff members into certain parts of the academic year leaving significant chunks of the calendar when the focus is predominantly research.

The PRG noted the intention of the School to devise a new degree curriculum, such as a single entry stream, which is to be encouraged. This would seem an ideal opportunity to revise distribution of teaching loads and recognise that staff members whose research has run out of steam have a responsibility for taking on significantly higher teaching loads than the research active. This demonstrates a commitment of the staff to teaching and the students' progression, but the load on staff needs to be considered also.

*Recommendation:* The PRG suggest that the School and the University look at the very successful scheme in the biological sciences at Glasgow University where 'University Teachers' are employed who do no research, all have PhDs, have a career structure, and take on large loads of teaching and administration.

The PRG noted disturbing comments in a recent report from one External Examiner that certain practices in the examination and continuous assessment processes in BEES (and elsewhere in the University) resulted in First Class honours degrees being awarded at UCC to students who were not so meritorious and would not have obtained such a high class of degree in the comparator universities in the UK. Grade inflation in degrees at UCC will not serve the University and the students well and steps MUST be put in train to rectify this unacceptable situation.

The PRG were disappointed at the report of poor student attendance at lectures, most notably immediately before and after the weekend. Students' representatives admitted they were 'spoon fed'. Less spoon feeding might place more responsibility on students towards their attendance of lectures and practical classes.

### **Research & Scholarly Activity**

Based on reading the SAR, the research data in the appendices and the extra grant funding details a picture of how the research profile of BEES was constructed. The following conclusions and subsequent recommendations are made in an effort to try to help BEES further develop and strengthen its research performance and make it more sustainable in an extremely difficult environment.

*Conclusions:* There is a core of good research across the board in BEES. However, there is not enough of it at the top level. External funding is fragile because too few people currently have significant grants. To do research, to apply and win grants takes time. It takes time to develop the idea for a grant and to produce the required preliminary data. It takes time to write the grant. At present most academic staff in BEES do not have this time. In a few cases those with the highest grant income also carry very heavy teaching loads. It is not clear how sustainable this will be even in the short term. It was also noticeable that there were no external research seminars advertised in the School or relevant seminars in other Schools or research Institutes such as the ERI. This all sends the same message, that of overwork of the academic staff. Often in the university sector technicians are key members of research teams. This does not seem to be the case in BEES in all areas.

*Recommendations:* The pattern of work in BEES needs to change to allow sufficient time to be spent on research. This will undoubtedly require a radical change in how teaching is delivered and how much teaching is carried out. If this is not done urgently then a strong research future for BEES is in danger. There needs to be a much more robust and deliberate system for mentoring, to help improve the quality of grant proposals. There could be an important role here for Emeritus Professors and other members of BEES who have a successful record of obtaining grant funding. Again, although, this kind of system takes time to establish it must be made available, especially to younger members of staff. A similar mentoring scheme to help improve the quality of papers written, and to enable staff to target higher impact journals, would also be beneficial. Fewer but higher impact papers will give BEES a much higher research standing than publishing more papers in journals of a lower impact factor. Quality not quantity will also help in the quest for grant funding. BEES should consider setting defined annual research targets for every member of academic staff in their P&DR process, making sure that sufficient time (and training/mentoring for junior staff) is available for these to be achieved.

BEES should consider enhancing its seminar programme, especially with some School-wide seminars that will help facilitate discipline interactions. The backbone of research in BEES is the cadre of PhD students. In general the graduate research students do the School proud, although in our discussions the PhD students were relatively subdued. The overall impression was that they feel pressured (but they accept this is not unusual). There was no real sense of collegiality/links with PhD students outside BEES and no great enthusiasm for taking training courses.

*Recommendation:* The quality of PhD training would be improved if a defined set of generic 'skill' training modules, many of which are already available, were made a requirement of progression to a PhD.

The big issue is making time to allow staff to carry out international quality research. This must be given the highest priority.

In walking round the School's research space it was evident that some areas are currently grossly under used and that space could be released towards creating areas for better informal interactions between staff and between staff and postgraduate students.

### **Staff Development**

Lack of promotion is a major problem affecting all types of staff: academic, administrative, and technical. The PRG realises that this is outside the control of the School, imposed by Government on public sector workers. The maintenance of morale will be very important for the immediate and medium-term future, given the cumulative effect of reductions in staff numbers, lack of promotions, lack of sabbaticals, salary cuts, pension changes, the Croke Park agreement, and possible removal of salary increments (noting that all new appointments are being made at the bottom of the scale).

#### *Recommendations:*

- One possible longer-term approach used in other countries (e.g. the U.K.) is for UCC to investigate a competitive system for titular promotions for academic staff (without otherwise altering contracts). This does not, however, address the problems affecting administrative and technician staff.
- PRG suggest that the Office of the Vice President for Research and Innovation should be proactive in providing a service to help staff in filling in grant applications and to provide a regular bulletin for staff of funding opportunities.

### **External Relations**

The School is in the early stages of developing its external engagement. Brief discussions with external stakeholders (business) suggest that students and staff could be more proactive in terms of making contact with them. At the other end of the educational continuum, secondary school connections are clearly important as part of the recruitment process. The SAR report outlines future directions for improving such contacts and external profile, although these all involve investment in terms of staff time which needs to be carefully considered. Many stakeholders (local, regional, national and international), may not be aware that the BEES School exists.

*Recommendation* : Development of student placements programmes (even a formalised industrial degree, requiring a year of work placement as part of the curriculum) would help build these connections naturally, while enlarging the student experience. Part of the initial contact process could be dealt with by appropriately trained administrative staff (either within or outside BEES).

*Recommendation* : The school could have an official launch with a display relating to teaching and research, to invite all (local, regional, national and international) stakeholders.

This does not necessarily need to be on site (although it would be better), but could also involve a few brief presentations, in a relatively informal setting in another building.

### **Support Services**

The PRG consider support services outside the School only, as it was clear that administrative and technical staff are more than support.

We spoke to a range of students, local, international, mature, and part-time/evening students. Feedback from students was unanimously positive about UCC and the School (in its current and previous forms) and can only be highly commended. Former students stated that if they were to do it all again, they would all come back to UCC.

*Recommendation:* This positive feedback should be highlighted in marketing material at the UCC level and also aimed at perhaps more geo-oriented school students, given the relatively unique nature of the programme (ecology, plant science, zoology and geology).

There is a sense of concern among some students concerning employment opportunities, although this is probably apprehension at the thought of looking overseas. Overall, they thought they were not well informed by the Career Services about specialist jobs in Environmental Science.

*Recommendation :* Through involving the Career Services, student placements/internships during the degree programmes would help to give them experience in the work place and an improved understanding of the nature of the application of their studies to real world problems. This would also benefit the Career Services, in exposing them to this field more directly. Also, it seems a lost opportunity that the evening course in Environmental Management does not obviously interact with the day time course (which would surely help inform the undergraduates of job possibilities and their own potential).

Although we did not receive any direct feedback, the support systems for student welfare seem appropriate, with college wide support and counselling services, and particular attention paid to 1st year (peer support groups etc). Having a Vice President for the Student Experience shows a strong institutional commitment to this important aspect of student life.

*Recommendation :* it is hoped that the replacement for the current VP for the Student Experience will continue in the same vein as the present incumbent who expects to take early retirement.

### **School Co-ordinating Committee & Methodology Employed in the Preparation of the Self-Assessment Report**

The PRG complimented the small team set up to prepare the SAR.

## **Services**

Such interviews the PRG had with service units such as Finance and Library suggested that these were in good hands, and BEES was well served. Our discussions with Building and Estates also suggested that some of the problems being experienced by BEES could be addressed by appropriate discussions.

## **Staffing**

The Peer-Review Group believes the staffing situation in the School is heading towards a precipice. The situation is particularly critical with respect to Geology which could be down to 4.5 academics, with the reported imminent early retirement of the Chair in Geology and a Professorship following earlier losses of a Senior Lecturer and Lecturer. Non-replacement in Geology will threaten the viability of this area. There is also a real concern about Plant Science and Zoology, where leadership positions do need to be filled. The target should be to find people of high quality – perhaps by UCC being prepared to elevate more junior academics. In the opinion of the PRG, the taking of such a risk could be a very sensible long-term strategy if suitable candidates can be found. Although the level of administrative and technical officer support seems viable, it is clear that changes in working practices are inevitable in order for the School to continue to run properly. It may be worth the School investigating the use of some properly qualified teaching-only staff in order to free up more time for the existing staff. This could be partly resourced from the annual surplus, say.

*Recommendation:* The PRG strongly supports replacements in Geology, at least a Chair and a Lecturer (noting that appointments at lecturer level can be as important as appointments at professorial level). Leadership positions in Plant Science and Zoology should also be filled, The School should investigate recruitment of teaching-only staff.

## **The Work Load Model**

The PRG notes the considerable effort that the School has put into completing the pilot version of UCC's Workload Model. The results were presented in units of LUEs, which perhaps should have been converted into approximate working hours/week. Even so, the results presented by the School indicate that almost all members of staff appear to work more than the EU norm of about 37 hours a week, with 13 members of academic staff carrying loads more than 1.5 times the EU norm, and one member of staff working 3 times the EU norm. The PRG recommends that the School Management Team investigates this apparent overload, recalibrating the model if need be, and then readjust working practices to lower the workload to below a reasonable threshold. Obviously, there are Health and Safety implications if members of academic staff are working such long hours. The School will need to manage carefully the interpretation of results from the Workload model (1) to prevent undesirable behavioural changes (e.g. staff refusing to undertake certain duties while flocking to others) and (2) to avoid the possibility of internal disputes about an individual's workload with respect to others. The PRG observes that the teaching hours of all academic staff in the School appear to be unreasonably high, and recommends rationalising the undergraduate, MSc, and diploma programmes by reducing the number of options and improving the efficiency of assessment processes. It should be emphasised that

the reduced teaching load does not mean that the contact hours students receive should reduce. Moreover, there could be more opportunities to improve the quality of the contact hours themselves, if the academic staff members are less overburdened.

### **Accommodation**

The PRG noted that considerable reconfiguration, remedial and refurbishment work had been undertaken in the Enterprise Centre, Butler and Cooperage buildings and that the North Mall Campus looked spacious, bright and welcoming.

The PRG also commented on the excellent quality of the laboratories and equipment, teaching spaces, postgraduate facilities and administration hub on this campus particularly the spaciousness of the laboratories and the close proximity of laboratories, staff offices and postgraduate work spaces to each other for ease of working and collegial relationships.

However the PRG felt the distance students had to travel to the main campus for lectures was affecting the quality of the student learning and experience. Also, the only break out space on the campus was a coffee shop with a seating capacity for no more than twenty.

*Recommendation:* The PRG recommend that a large lecture theatre (capacity 250 students) be provided on the North Mall Campus, and in future this will serve beyond the current needs of BEES and Applied Psychology.

In addition the PRG strongly recommend that a social and flexible learning space with restaurant facilities and WIFI access be made available on the North Mall Campus. This would enable students to communicate and network with students from the different disciplines in BEES. This could be developed from existing space in the short term.

Finally, the Peer Review Group discussed the problem of the leaking roof with Buildings and Estates who appear to have a Master Plan in place that in the long term would be of enormous benefit to the School.

### **Financing**

The PRG believes that the School is making very efficient use of its financial resources in the present very difficult circumstances. The staff as a whole should be commended for their efforts in this regard. However, it is possible that the present culture of non-expenditure could develop into one of non-investment.

*Recommendation:* The School should investigate ways of transferring its small surplus across the annual accounting boundary, in consultation with the UCC Bursar, with a view of pump-priming new research activities.

### **Communications**

The SAR clearly states that communication is one of the Schools top priorities and has put in place numerous strategies to achieve this objective including:

one-to-one informal meetings, telephone, formal meetings, committee structure, website, research blog, the BUZZ newsletter, and an intranet for staff and researchers.

In addition the school has in place a first year mentoring programme, staff-student committee and annual 10:20 review meetings with 3<sup>rd</sup> and 4<sup>th</sup> year students.

Nonetheless a frequent comment in meeting with staff and students was a failure in communication. This would be alleviated in part by the development of a common space for staff and students to allow contact on a more informal, but often effective, level.

*Recommendation:* To build on the work already achieved in this area the PRG recommends that the School continue with their communication strategy towards developing an inclusive and open communication process for staff and students. A central meeting space is also critical for facilitating effective communication.

#### **Implementation of recommendations for improvement made in Peer Review Group Report arising from last quality review.**

The PRG noted that some recommendations from the Quality Review of Research in 2009 for ZEPS and Geology had been implemented, such as an advisor/assessor for PhD students. PRG recommends that PhD students should meet with their advisor at least twice each year. Other recommendations regarding aiming to publish in high impact journals has made some progress but the PRG believe that more progress can and should be made.

#### **Compliance with European Standards and Guidelines for Quality Assurance in the European Higher Education Area – especially relevant sections of Part 1 of the ESG**

The School is compliant with ESG as they carry out student surveys and publish relevant information.

#### **Comment on developments and actions taken since the last quality review undergone by the School**

The PRG felt it is was not appropriate to comment on the developments and actions taken since the last quality review as the new School of BEES was only formed in 2010. Previously, quality reviews were undertaken separately for Zoology, Ecology and Plant Science (ZEPS), Environmental Science and Geology. There has been so much restructuring at College, School and discipline level since then, that the PRG felt it would not be comparing like with like.

## **RECOMMENDATIONS FOR IMPROVEMENT**

### **Recommendations for Improvement Made by the School**

The PRG noted the recommendations made by the School in the SAR and has incorporated these in the PRG's recommendations where appropriate. The PRG would not discourage the School from following up their own recommendations which are not specifically endorsed by the PRG.

### **Recommendations for Improvement Made by the Peer Review Group**

#### **Research**

- The practice of work in BEES needs to change to allow sufficient time to be spent on research and enhance the BEES research profile. This will undoubtedly require a radical change in how teaching is delivered and how much teaching is carried out.
- There needs to be a much more robust and deliberate system for mentoring, to help improve the quality of grant proposals. There could be an important role here for Emeritus Professors and other members of BEES who have a successful record of obtaining grant funding.
- A similar mentoring scheme to help improve the quality of papers, targeting higher impact journals would also be beneficial. Fewer, higher impact papers will give BEES a much higher research standing than producing lots of lesser impact ones.
- BEES should consider setting defined research targets for every member of academic staff in their P&DR process, making sure that sufficient time is available for these to be achieved.
- BEES should consider enhancing its seminar programme, especially with some School-wide seminars that will help foster discipline interactions.
- The quality of PhD training could be improved if a defined set of generic 'skill' training modules, many of which are already available, were made a mandatory requirement.
- Currently BEES is examining the role of its technical staff. It would be good if, as part of this review, some targeted technical support could be deployed to help underpin research.
- PRG endorses efforts to integrate research programmes and foster multi-disciplinary research.
- VP for Research might consult with Glasgow University or similar institution regarding services provided to researchers to facilitate preparation of grant applications.

- The PRG endorses efforts of BEES to foster research with the local research institutes, ERI and CMRC.
- Enhance the role of the PhD student advisor to have twice yearly meetings with the PhD student under their charge, rather than only at times of difficulty.

### **Teaching and Learning, Curriculum Delivery and Assessment**

- The school should explore more time-efficient approaches to teaching, such as teaching certain courses every two years (and combining classes, so that 3rd and 4th year students are in the same class), more learning based approaches in which students work at their own pace and have tutorial type interaction with a lecturer, rather than the more traditional stand up lecture.
- The School should subsidise field courses as far as it was able. Additionally, to ease the pain of lump sum payment, consider an instalment system (where a student pays X % of the total every Y weeks).
- The use of research students for demonstrating in practical classes and field trips in BEES should be consistent with usage in other cognate Schools including payment for or otherwise for their time.
- The School should look to upgrading the equipment and furniture in teaching rooms.
- The number of modules offered by the School should be reduced so that teaching loads can be reduced and consequently time be released for focussing on the research effort. As well as reducing the amount of teaching the School might also like to consider concentrating teaching of individual staff members into certain parts of the academic year leaving significant chunks of the calendar when the focus is predominantly research.
- Review the timetable regarding clashes of modules and the time needed for students to transit between Distillery Fields campus and the main campus.
- Increase the numbers of postgraduate research students. Although this might require some loss of FTEs from a reduction in undergraduate teaching, in the medium term this should be offset from increased FTEs from graduate students.
- Administrative staff might assist academic staff load material onto Blackboard. Blackboard should be used consistently across teaching staff.
- For continuous assessment exercises students must have the material returned within the agreed maximum time of 4 weeks.

- Consider the US as a source of additional students, in addition to India and the Far East.
- Introduce work placements as regular opportunities for suitable students.
- Consider providing model answers, good and bad, on Blackboard and use of peer assessment as an alternative to continuous assessment and staff comment on written work.
- Make WIFI available to undergraduates at all sites and use it as a teaching tool.

### **Staffing**

- The Committee strongly supports replacements in Geology, at least a Chair and a Lecturer (noting that appointments at lecturer level can be as important as appointments at professorial level). There is also a real concern about Plant Science and Zoology, where leadership positions do need to be filled. The target should be to find people of high quality – perhaps by UCC being prepared to elevate more junior academics. In the opinion of the PRG, the taking of such a risk could be a very sensible long-term strategy if suitable candidates can be found.
- It would be worth the School investigating the use of some properly qualified teaching-only staff in order to free up more time for the existing staff. This could be partly resourced from the annual surplus, say. (Scheme works very well in the School Life Sciences at Glasgow University).

### **The Work Load Model**

- The PRG recommends that the School Management Team investigates the apparent work overload some members of staff are carrying, recalibrating the model if need be, and then readjust working practices to lower the workload to a reasonable threshold.
- The PRG observes that the teaching hours of all academic staff in the School appear to be unreasonably high, and recommends rationalising the undergraduate, MSc, and diploma programmes by reducing the number of options, improving the efficiency of assessment processes. It should be emphasised that the reduced teaching load does not mean that the contact hours students receive should reduce.
- Once the data in the Workload Model is confirmed, the PRG expects the Head of School to use the information provided to discuss the contributions of the staff to the progress of the School.

### **Staff Development**

- One possible longer-term approach used in other countries (e.g. the U.K.) is for UCC to investigate a competitive system for titular promotions for academic staff (without otherwise altering contracts). However, this does not address the problems affecting administrative and technician staff.

### **Accommodation**

- The Peer Review Group recommends that a large lecture theatre (capacity 250 students) be provided on the North Mall Campus.
- In addition the PRG strongly recommends that a social and flexible learning space with restaurant facilities and WIFI access be made available on the North Mall Campus. This would enable students and staff to communicate and network with students and staff from the different disciplines in BEES.
- Research should not be impeded through problems of access to buildings out of normal working hours.

### **Communications**

- The PRG recommends that the School build on the work already done in this area and continue with their communication strategy continuing to develop an inclusive and open communication process for staff and students.

### **Financing**

- The School should investigate ways of transferring its small surplus across the annual accounting boundary, in consultation with the UCC Bursar, with a view of pump-priming new research activities.

### **External Relations**

- Development of student placements programmes (even a formalised industrial degree, requiring a year of work placement as part of the curriculum) would help build these connections naturally, while enlarging the student experience. Part of the initial contact process could be dealt with by appropriately trained administrative staff (either within or outside BEES). In addition student placements/internships would help to give students experience in the work place and an improved understanding of the nature of the application of their studies to real world problems.
- The school could have an official launch, to invite all (local, regional, national and international) stakeholders. This does not necessarily need to be on site (although it would be better), but could involve a few brief presentations, in a relatively informal setting in another building.

- International students (both Erasmus and beyond) could be targeted more aggressively in future and could provide a good source of quality graduate students. The school should try to have representation on international affairs committees and take an active role in the marketing/recruitment processes at the UCC level and actively continue to explore setting up novel joint programs with non-Irish universities. This should be dealt with in combination with the international recruitment unit at UCC.
- The School's ambition to increase links with industry and other agencies is endorsed.
- Work towards formal accreditation of Environmental degree programmes is endorsed.
- PRG endorses compiling an alumni register.

#### **Students and the Student Experience**

- In terms of the teaching experience the School should try to convince the external departments to consider the needs of the BEES students (have a contact person in the external department to ensure the BEES students are on the appropriate mailing lists from each department ...to know when lectures are cancelled, etc).
- Field trips were highly valued by all students and one way to overcome the financial burden on students would be to consider an installment system where the cost could be spread over the year.
- The Vice President for the Student Experience position should be replaced to continue the excellent work in this area.

## APPENDIX A

### SCHOOL OF BIOLOGICAL, EARTH AND ENVIRONMENTAL SCIENCES

#### PEER REVIEW GROUP SITE VISIT TIMETABLE

##### In Summary

- Monday 23 January: The Peer Review Group (PRG) arrives at the River Lee Hotel for a briefing from the Director of the Quality Promotion Unit, followed by an informal meeting with school staff members.
- Tuesday 24 January: The PRG considers the Self-Assessment Report and meets with school staff, student and stakeholder representatives. A working private dinner is held that evening for the PRG.
- Wednesday 25 January: The PRG meets with relevant officers of UCC. An exit presentation is given by the PRG to all members of the school. A working private dinner is held that evening for the PRG in order to finalise the report. This is the final evening of the review.
- Thursday 26 January: External PRG members depart.

<b>Monday 23 January 2012</b>	
16.00	Meeting of members of the Peer Review Group Briefing by Ms. Deirdre O'Brien, Administrative Officer, Quality Promotion Unit. Group agrees final work schedule and assignment of tasks for the following 2 days. Views are exchanged and areas to be clarified or explored are identified.
19.00	Dinner for members of the Peer Review Group & Head of School, including Heads of Departments and the School Co-ordinating Committee: <i>Members of BEES in attendance:</i> Prof Gavin Burnell, Discipline of Zoology/Ecology Dr. Debbie Chapman, Discipline of Environmental Science Dr. Sarah Culloty, Discipline of Zoology/Ecology, Co-ordinating Committee Dr. Barbara Doyle Prestwich, Discipline of Plant Science, Co-ordinating Committee Ms. Phil Fogarty, Administrative Staff, Co-ordinating Committee Dr. Ken Higgs, Discipline of Geology, Chair of Co-ordinating Committee Ms. Mary Lehane, Senior Technical Officer, Co-ordinating Committee Dr. Patrick Meere, Discipline of Geology, Co-ordinating Committee Ms. Kate O'Brien, BEES School Manager, Co-ordinating Committee Prof. John O'Halloran, Discipline of Zoology/Ecology, Head of School of BEES
<b>Tuesday 24 January 2012</b>	

08.30	Convening of Peer Review Group		
09.00	Professor John O'Halloran, Head, School of BEES		
09.30	Group meeting with all School staff <i>See Appendix A for staff list</i>		
10.30	Tea/coffee		
11.00	<p><b>Private meetings with individual staff members</b> <u>Group 1</u> <i>Professor Richard Cogdell</i> <i>Professor Kerry Gallagher</i></p> <p>11.00: Prof. John Gamble 11.15: Prof. Gavin Burnell 11.30: Dr Rob McAllen 11.45: Dr Sandra Irwin 12.00: Ms. Kate O'Brien 12.15:</p>	<p><b>Private meetings with individual staff members</b> <u>Group 2</u> <i>Professor Alistair Borthwick</i> <i>Professor Michael Williams</i></p> <p>11.00: Dr Debbie Chapman 11.15: Dr Andy Wheeler 11.30: Mr Allen Whitaker 11.45: Dr Pat Meere 12.00: Ms. Elaine Kelly 12.15: Dr Marcel Jansen</p>	<p><b>Private meetings with individual staff members</b> <u>Group 3</u> <i>Ms Mary McNulty</i> <i>Professor Stephen Phillips</i></p> <p>11.00: Dr Maria O'Mahony 11.15: Dr John Reavy 11.30: Mr Eoin Lettice 11.45: Dr Fidelma Butler 12.00: Prof. Peter Jones 12.15: Dr Tom Kelly</p>
12.30	Professor Paul Giller, Registrar and Senior Vice-President		
13.00	Dr Andy Wheeler, Vice-Head, School of BEES		
13.15	Working lunch		
14.00	<p>Visit to Butler Building, escorted by Dr Andy Wheeler, Vice Head of BEES and Mr Don Kelleher, Chief Technical Officer.</p> <p>Visit to Cooperage and Enterprise Centre escorted by Professor John O'Halloran, Head, School of BEES and Mr Allen Whitaker.</p>		
	<p><b><u>Group 1</u></b> <i>Professor Alistair Borthwick</i> <b><i>Professor Kerry Gallagher</i></b> <i>Professor Stephen Phillips</i></p>	<p><b><u>Group 2</u></b> <i>Professor Richard Cogdell</i> <i>Ms Mary McNulty</i> <i>Professor Michael Williams</i></p>	
15.00	<p><u>Representatives of 1<sup>st</sup> and 2<sup>nd</sup> Year Students</u> Mojibola Aramide, 2<sup>nd</sup> Yr, International Field Geosciences Sean Buckley, 2<sup>nd</sup> year Zoology Ellie Fitzpatrick, visiting, Geology James Holland, 2<sup>nd</sup> Year Geology Nikhil Jacob, 1<sup>st</sup> yr, Biol Chem Sci Adrian Maguire, 1<sup>st</sup> yr, Biol Chem Sci Cian Moran, 2<sup>nd</sup> yr, Geology Frank Murphy, 2<sup>nd</sup> yr, Geology Michael Tobin, 2<sup>nd</sup> yr, Environ Sci Martina Tully, 2<sup>nd</sup> yr, Geology</p>	<p><b>15.00 – 15.25 Professor Tom Cross (retired)</b> 15.25 – 15.40 Dr Sarah Culloty (private meeting)</p>	

	Marguerite Walsh, 2 <sup>nd</sup> yr, Earth Sci Chandra Walter, 2 <sup>nd</sup> yr, Zoology Margeaux Zwang, visiting, Geology	
15.40	<u>Representatives of 3<sup>rd</sup> and 4<sup>th</sup> Year Students</u> Laura Bracken, 4 <sup>th</sup> yr, Earth Sci Aoife Darby, 4 <sup>th</sup> yr, Environ Sci Leanne Doran, 4 <sup>th</sup> yr, Ecology/Zoology Colin Keane, 4 <sup>th</sup> yr, Ecology/Zoology Erin Johnson, 4 <sup>th</sup> yr, Ecology/Zoology Hannah McCarthy, 4 <sup>th</sup> yr, EPB Shane Feeney, 4 <sup>th</sup> yr, EPB	<u>Representatives of 3<sup>rd</sup> and 4<sup>th</sup> Year Students</u> Sini Burdillat, 3 <sup>rd</sup> yr, Ecology Anita Godinho, 3 <sup>rd</sup> yr, Geology Colin McCarthy, 3 <sup>rd</sup> yr, Environ Sci Hugh Nolan, 3 <sup>rd</sup> yr, Ecology Cormac O'Callaghan, 3 <sup>rd</sup> yr, Ecology Ryan Williamson, 4 <sup>th</sup> yr, Geology
16.20	<u>Representatives of Graduate Students</u> Stefanie Broszeit, PhD Anneli Englund, PhD Tara Griffin, PhD Dominic McEntee, Masters (taught) Fergus McAuliffe, PhD Dave McCarthy, PhD Marian McGrath, Masters (research)	<u>Representatives of Graduate Students</u> Grace Cott, PhD Maud Cross, PhD Lucas Jagodzinski, PhD Tadeusz Kirakowski, PhD Ashley Markewinskii, Masters (research) Erin O'Rourke, PhD Thomas Quirke, PhD
17.15	<u>Representatives of stakeholders, past graduates and employers</u> Mr. Fabio Bacci, Past-graduate (Environmental Studies) Mr. Calvin Brannigan, Past-graduate (Environmental Science) Mr. Paul Dowdall Ms. Eimear Egan, Past Graduate, Environmental Science Commodore Mark Mellett, Flag Officer Commanding Naval Service Mr. Barry O'Donovan, Past Graduate, Environmental Science Mr. Aidan Stafford, CTO Environmental & Past-graduate (Environmental Science) Mr. Koen Verbruggen, Geological Survey of Ireland Mr. Peter Webster, Environmental Protection Agency	
19.00	Meeting of Peer Review Group to identify remaining aspects to be clarified and to finalise tasks for the following day, a followed by a working private dinner.	
<b>Wednesday 25 January 2012</b>		
08.15	Convening of Peer Review Group	
08.30	Professor Patrick Fitzpatrick, Head, College of Science, Engineering & Food Science	
09.20	Professor Grace Neville, VP for Teaching and Learning	
09.40	Mr. Con O'Brien, VP for the Student Experience	
10.00	Tea/coffee	
10.30	Mr. Cormac McSweeney, Finance Office	

11.00	Visit to UCC Library, meeting with Ms Margot Conrick, Head of Information Services and Mr. Richard Bradfield, Science Librarian, Boole Library.
12.15	Mr. Don Kelleher, Chief Technical Officer, School of BEES
12.30	Mr. Mark Poland, Director, Buildings & Estates
13.00	Working lunch with Professor John O'Halloran, Head, School of BEES
13.45	Professor Anita Maguire, VP for Research & Innovation
14.05	Preparation of first draft of final report
14.30	Professor Alan Kelly, Dean of Graduate Studies
14.45	Preparation of first draft of final report
16.30	Professor John O'Halloran, Head, School of BEES
17.00	Exit presentation to all staff made by the Chair of the Peer Review Group and the other members of Peer Review Group, summarising the principal findings of the Peer Review Group. This presentation is <u>not</u> for discussion at this time.
19.00	Working private dinner for members of the Peer Review Group to complete drafting of report and finalisation of arrangements for completion and submission of final report.

**Appendix B**  
**School of BEES Staff List**

**Administrative staff**

Crowley, Eileen  
Fogarty, Phil  
Kelly, Elaine  
McSweeney, Mary  
O'Brien, Kate

**Academic staff**

Allen, Alistair  
Burnell, Gavin  
Butler, Fidelma  
Chapman, Debbie  
Culloty, Sarah  
Dorschel, Boris  
Doyle Prestwich, Barbara  
Gamble, Prof. John  
Harrison, Simon  
Higgs, Bettie  
Higgs, Ken  
Jansen, Marcel  
Jarvis, David  
Jones, Peter  
Kelly, Tom C.  
Lettice, Eoin  
McAllen, Rob  
Meere, Pat  
O'Halloran, John  
Peterson, Audra  
Ramsay, Ruth  
Reavy, John  
Rogan, Emer  
Wheeler, Andrew  
Whelan, Pdraig

**Technical staff**

Cotter, Elizabeth  
Daly, Eileen  
Harman, Luke  
Harrison, Alison  
Kelleher, Don  
Kiely, Mairead  
Lehane, Mary  
Morrissey, Frank  
Warner, Stuart  
Whitaker, Allen

**Post Doc staff**

Brown, Susie  
Carlsson, Jens  
Coughlan, Jamie  
Dillane, Eileen

Doyle, Tom  
Gittings, Tom  
Graham, Conor  
Hutton, Steve  
Irwin, Sandra  
Jessopp, Mark  
Kraak, Sarah  
Lynch, Sharon  
Maloy, Aaron  
McGinnity, Philip  
O'Connor, Ellen  
O'Farrell, Brian  
O'Herlihy, Eileen  
O'Mahoney, Maria  
Oxbrough, Anne  
Sleeman, Paddy  
Sleeman, Paddy  
Wilson, Mark