University College Cork
National University of Ireland, Cork

Quality Improvement/Quality Assurance

Peer Review Group Report

School of Mathematics, Applied Mathematics and Statistics

The Statistical Laboratory Consultancy Unit

Boole Centre for Research in Informatics (BCRI)

Academic Year 2003/04

22nd June 2004

Members of the Peer Review Group:

	Name	Affiliation	Role
1.	Prof. Philip Boland	University College Dublin	External
2.	Prof. Edward Cahill	University College Cork	Internal (Chair)
3.	Prof. Maurice Dodson	University of York	External
4.	Prof. Robert O'Malley	University of Washington	External
5.	Prof. Cormac J. Sreenan	University College Cork	Internal

Executive Summary

1. The Peer Review Group (PRG) was favourably impressed with many aspects of its findings on the School's activities. The School's undergraduate programmes in the Faculties of Science and Arts are of a high quality. Similarly, its offerings to other Faculties are well received. Teaching is of a high standard. Student feedback was extremely positive. The Departments of Mathematics, Applied Mathematics and Statistics not only have a long and established reputation in UCC; many members are recognised to have continued the excellent research tradition to international levels. Pivotal innovations in recent years have been the restructuring of existing undergraduate degrees and the establishment of the B.Sc. degree in Financial Mathematics & Actuarial Science. Encouragingly, in the last three years, the relatively small student intake has started to increase. From a University perspective, a flourishing and innovative School in teaching and research across its disciplines is considered fundamental to many faculties at UCC. The recent establishment of the Boole Centre for Research in Informatics is an example of such research collaboration with other disciplines. The PRG felt that the School is currently at an important crossroads in terms of charting out the next stage of its future development and academic direction.

2. The School of Mathematics, Applied Mathematics and Statistics, which was established eight years ago, does not appear to be functioning as satisfactorily as intended, although some useful outcomes have been achieved to date. The PRG felt there were many problems in the structure and operating processes of the School. Apart from an unnecessary increase in internal bureaucracy, the extent of integration of the departments as a School is problematical in view of the operation, powers and identity of the departments in the School and their apparently separate external involvements. There are issues regarding the relative roles of the Chairperson of the School and the Heads of the Departments. The PRG felt there was a need for 'low walls' as regards the operation of the departments and the flexibility of choice of students in the undergraduate degree programmes. The School should consider further its mission statement and its objectives for the future. With good leadership and some reflection on the experience and benefits achieved over the last eight years, the members of the School should be able to adapt its structures and operational processes to attain a more efficient and stronger collaborative future momentum. This may be fundamental in demonstrating a greater degree of confidence, external promotion and profile in UCC, in order to realise the potential to achieve innovation in programmes and joint research in a fast changing disciplinary landscape.

3. There are staffing issues as regards age profile, retirements, gender balance and a heavy dependence on part-time and contract staff for teaching. Also, there appear to be UCC commitments on staff appointments. The PRG recommend that the upcoming vacancies due to retirements be filled at lectureship level – in the main. We gather the Chair in Mathematics is currently being filled and that an Associate Professorship in Financial Mathematics has been advertised. A Senior Lecturer in Applied Mathematics had been promised and the PRG feel this position should be approved and advertised at the earliest opportunity. The absence of permanent, let alone senior, female academic staff needs urgent attention.

4. The PRG was surprised at the large number of individual courses with apparently small numbers of students across a number of the undergraduate degrees. It is felt that there is scope for rationalisation of courses to realise teaching efficiencies and a greater transparency. Improving the flexibility of student choice across some of the disciplines in the School should also be examined. The relatively small number of postgraduate students was also noted. The PRG felt the School should address this issue urgently in designing taught and research based postgraduate degree and other programmes to bring the postgraduate cohort up to a more appropriate level.

5. The current situation of the Statistical Laboratory Consultancy Unit requires urgent attention by College and the School. It needs the appointment of a Director and a review of its staffing, remit and operational responsibilities. The Laboratory provides a very worthwhile service, in somewhat difficult circumstances, to a wide range of UCC researchers across the faculties.

6. There is a need to review the levels of physical and human resources in the School's administrative office and internal computer laboratories.

7. The PRG was not convinced of the need for a dedicated Mathematical Sciences building. It agreed that the extent and quality of current facilities left a lot to be desired and as opportunities arose the School should be given priority.

8. The PRG was of the view that the current title of the School is unwieldy and perhaps contributes to (or reflects) some of its internal operational problems. It recommends the title be changed to a shorter more encompassing title such as 'The School of Mathematical Sciences' or its equivalent - as might be agreed and proposed by the School in the very near future.

9. The members of the PRG wish to be advised of the implementation or otherwise of the above recommendations over the next two years.

Timetable of the site visit

The visit of the Peer Review Group (PRG) took place on March 11 and 12, 2004, and involved a significant number of meetings with a wide range of people working in, or associated with, the School, the Statistical Laboratory Consultancy Unit (StatsLab) and the Boole Centre for Research in Informatics (BCRI). The actual timetable is attached as an Appendix to this report.

Overall, the timetable organisation and planning was satisfactory, but the PRG observed that the timetable was especially intense given the fact that, unlike regular single-Department quality reviews at UCC, this review was of three academic Departments within a School, plus two associated units. The complexity of the School structure put additional pressure on the timetable and dominated many of the meetings with staff and the discussions within the PRG.

The PRG was satisfied that they met representatives of the key stakeholders in the School, the StatsLab and the BCRI, and had an opportunity for individual staff, in addition to the School Chairperson and Heads of Departments, to meet with us privately.

Peer Review

Methodology

The PRG, operating as a single group, met individually with a broad range of people:

1. Chairperson of the School
2. Heads of Departments (Applied Mathematics, Mathematics, Statistics)
3. Acting Director of the Statistical Laboratory Consultancy Unit
4. Technical Staff
5. Several academic and administrative staff
6. UCC Vice-President
7. Deans of Faculties (Arts, Engineering, Science)
8. Vice-President for Research

9. Accountant from the Finance Office
10. Subject Librarian

The PRG, operating as a single group, also met several groups of people:

1. Heads of Departments (Applied Mathematics, Mathematics, Statistics)
2. Directors of the BCRI
3. School administrative staff
4. Employers of School graduates
5. Recent graduates of the School
6. Undergraduate Students with major subject in School
7. Undergraduate Students with minor subject in School
8. Postgraduate taught and research students
9. Researchers
10. All staff of the School and StatsLab (Open discussion)

The PRG also toured the physical facilities of the School and the StatsLab, and visited the library.

We sought a considerable amount of additional information that had not been provided in the Self-Assessment report, specifically:

1. Summary of numbers and types of publications in the period of the review
2. Summary of recent School budgets, income sources and amounts, and expenditures
3. Summary of research income and numbers of grants for the period of the review
4. Listing of all taught modules, giving numbers of students and FTEs
5. Total of staff FTEs, full-time and part-time, and student/staff ratios
6. Totals for student FTEs for recent years
7. Age profile distribution of academic staff
8. Strategic development plan for the School

We would have expected much of this information to have been included in the report, however the School and Quality Promotion Unit provided this information promptly when we requested it. The PRG was very happy with the level of cooperation received from the

School throughout the review. The review was conducted in an amicable fashion, with the aim of helping the School in its process of self-assessment and self-improvement.

The review commenced with a briefing from the Director of the Quality Promotion Unit, explaining the objectives of the review, the role of the various participants, and the procedures to be followed.

In concluding the review, the members of the PRG agreed to request that it receive formal updates from UCC on the progress of implementing the recommendations. These reports are requested 1 year and 2 years hence.

Overall Analysis

- ***Self-Assessment Report***

  The Self Assessment Report was voluminous and detailed but contained so much information that the main features of the School's performance were not easy to discern. It was also admitted not to be complete; a number of staff profiles were missing. The BCRI Report was submitted separately, and was in general comprehensive, but lacked financial details. As itemised separately above, important metrics such as the School budget, research income, a list of publications, age profile (a bar chart would have dramatically highlighted the urgency of this problem), syllabi and workload, crucial to the assessment, were either time-consuming to extract or missing altogether. The initial absence of this information affected the progress of the assessment by the PRG.

  The PRG found the summaries of the various questionnaires to be objective and very useful. While the BCRI were profiled in a separate report, we were surprised that such a significant research development received relatively little mention in the report of the School. Similarly, the PRG was very surprised that the two issues that dominated many discussions with staff in the School received little mention in the report – the issue of the School structure and operation, and that of the promised Senior Lectureship in Applied Mathematics.

The Self-Assessment Report opened with a long list of action items that have been agreed by the School. This demonstrated the wide range of activities across the School, and the degree of contemplation that the School have given to their immediate and longer-term future. However, the list was lengthy, and ranged from very significant items such as planning for a new building and new programmes, to relatively minor issues of policy, and several statements that were sufficiently vague to lack any real impact. The list would have been more useful to the PRG if it had been focused and prioritised; in any case we choose to focus on the major and significant action issues. We noted that some of the action items were not adequately supported, although in some cases we discovered supporting evidence.

The PRG felt that the report was most lacking in relation to research, and was disappointed not to see summary information relating to the School's research themes, activity, achievements and directions.

- ***Overall Analysis.***

  While it was very clear that a detailed SWOT exercise was carried out, the report did not contain a synthesis of the result. In particular the emphasis appeared to be on strengths and weaknesses; the opportunities and threats areas of the analysis have not been addressed in the main body of the report. We note that there was considerable attention paid to the outcome of the exercise and the directions to follow as a result. The results of the SWOT exercise are clearly very much in line with the thinking of the School.

  Full and future development of the School is an opportunity that has not been fully expressed and developed in their report. For example, the PRG feel there are more opportunities for future teaching and research collaboration in diverse areas. The PRG consider the current *modus operandi* of the School as a serious threat to the full realisation of the School's potential. Other than the above we believe the School had carried out a thoughtful and wide-ranging SWOT review.

- ***Benchmarking Exercise.***

  Overall the PRG was satisfied with the benchmarking exercise. The School adopted the accepted approach of a quantitative comparison with five carefully chosen UK universities. The choice was sensible and appropriate and provided some valuable information. The relatively high dependence that the UCC School has on part-time and temporary staff is clearly a striking and somewhat worrying difference arising from the exercise – and one that must be carefully addressed in the near future for the School. The exercise revealed that the School compares favourably with research output. However, although the PRG believe that the quality of research being produced in the School is high, the numerically based arguments were not completely convincing on their own. The PRG recognise the difficulties in assessing quality by the usual metric criteria such as the number of publications, research income, etc. To meet this, some good indicators of the quality of research in the School were given by successes in recent Enterprise Ireland and SFI competitions. But a brief survey of the salient features of the School's research and achievements to give a flavour of its activities would have been appreciated (and would have been of benefit to the School as a whole). The benchmarking exercise also highlights the relatively high student-staff ratio in the School compared to the 5 UK Schools.

Findings of the Peer Review Group

School Details

The School was formed as a co-operative structure within UCC by statute in 1996, being comprised of the whole of the memberships of the Departments of Mathematics, Applied Mathematics and Statistics. The Statistical Laboratory (StatsLab) was developed in 1977, and although it has had a close relationship with the Department of Statistics since then, it is not in any formal sense part of the School. The Boole Centre for Research in Informatics (BCRI) was established in UCC (2002) as a joint project between the School and the Department of Computer Science, although it too is not formally part of the School.

School Organisation & Planning

Although "Schools" exist and seem to function well in the Faculty of Medicine at UCC, they are not the norm elsewhere in the UCC where Departments are the main units. The School (of Mathematics, Applied Mathematics and Statistics) suffers from unresolved tensions between the constituent departments. It has however made important advances in working as a unit, particularly in the development of new programmes. The Chairperson of the School has an important and challenging role in trying to bring together the Departments, while also supporting the separate identities of the disciplines of Mathematics, Applied Mathematics and Statistics. We were surprised that no Full Professor has acted as Chairperson. In spite of the benefits the school structure has brought to the *Mathematical Sciences* at UCC, the School could gain from a more efficient administrative set-up, which is at the moment hindered by the existence of the departmental structures.

Teaching & Learning

The School offers a comprehensive and high-quality set of taught programmes. Students consistently praised staff as being approachable and accessible. The calibre and intellectual curiosity of the students majoring in School degree programmes was a pleasure to behold. It was interesting that none of them seemed to care very much about earning money. They were doing maths not for vocational reasons but out of interest. We were pleased to see that the new Financial Mathematics and Actuarial Science degree course is also attracting high calibre students but there must be a caveat that while this highly satisfactory state of affairs looks set for the immediate future, there is of course no guarantee of it being permanent.

Research & Scholarly Activity

The School is small numerically but produces high quality research across the discipline, from the classical to the contemporary. It is certainly comparable with good British Universities, even substantially larger ones. Cork's geographical isolation has not stopped it from being active and productive, attractive to good students, well-regarded and valued within most of UCC and with a well-deserved international reputation.

The multi-disciplinary research area established in the BCRI is indicative of the quality of expertise and forward looking perspective amongst the majority of staff in the School. It sets important new directions, provides a template for others to establish inter-disciplinary research centres, acts as a vehicle for attracting new funding, and demonstrates both the importance of core mathematics as well as developing and applying new forms of mathematics.

External Relations

Many academic staff in the School have established good contacts with other Departments within UCC, as well as with other universities and institutions both in Ireland and abroad. The StatsLab provides a very valuable role with its links to other Departments in UCC and to industry in the Cork area. Several members of the School have established strong and admirable ties with the local community. However in this information age, there is a continual need for academics and universities to enhance their image and improve external relations (see recommendations below).

Support Services

There is considerable concern in the School about the inadequacy of their library allocations, which has recently worsened because of UCC cutbacks. In particular the purchase of books has become very limited, partially because of increasing journal costs. Relative to UK universities, the library provisions in the mathematical sciences at UCC are not adequate. On a far too brief a visit, it appeared that undergraduate texts were adequate but that the range of journals and books required for a school in a university with ambitions to be amongst the best in Europe was seriously below standard. Substantial investment is needed to bring the only expensive aspect of mathematics up to a satisfactory level. Researchers at UCC can't readily take advantage of the fine holdings at Trinity College, as their counterparts at UCD and DCU can do.

Generally speaking, staff seem to be satisfied with computer services in UCC and the School. Access to some of the School labs is a problem for some of the students, but this is

a problem that can readily be addressed. Future consideration might be given to wireless technology, given the ever-increasing demand for computing services.

School Co-ordinating Committee & Methodology employed in the preparation of the Self-Assessment Report

The School Co-ordinating Committee for the QI/QA exercise took its job of preparing the Self-Assessment Report very seriously, planning well in advance for an extensive collection of inputs, information and views about the School. A SWOT day was organised, and considerable time was spent in preparing, analysing, and summarizing the results of numerous questionnaires about the School from interested parties. Although one often expects low response rates to surveys of this type (due to general contentment or acceptance of the situation in question), it was somewhat surprising to see a low (approximately half) response rate to the Academic staff questionnaire given the nature of the whole QA/QI exercise.

Recommendations for Improvement

The report includes a substantial list of actions to be taken by the School, ranging from substantive issues to relatively minor ones. The PRG decided to focus on the substantive issues. Below we address those issues and also include other recommendations that originated within the PRG. These are addressed roughly in the priority we believe they should be considered given their degree of impact on the School.

Operation of the School

It was abundantly clear from our meetings with a range of staff and subsequent deliberations that a review is crucial. The following points should be considered.

A Faculty/Department structure is the norm in UCC. The current Faculty/School structure was established 8 years ago with the amalgamation of the Departments of Mathematics, Applied Mathematics and Statistics. The School structure (though not the concept) is relatively unique in UCC and does not appear to be fully understood. As detailed below,

this amalgamation has not fostered an effective working relationship between the departments. Despite this, the existence of the School is a significant contributing factor in the recent successful course developments (such as the degree in Financial Mathematics and Actuarial Science) and improved student intake, in terms of both quantity and quality. But students commented on the apparent rigidity in the undergraduate degree structure, that restricts their choices of modules across the three areas. These types of issues must be addressed in such a way that the core of each area be maintained and strengthened, but to the ultimate benefit of the School's students.

Although it is accepted that there can be no return to three independent Departments, it is evident that the present structure is a source of discontent of varying degrees amongst staff. Three reasons were apparent.

i) A perception that the School structure was an ad-hoc fix that does not fit within the existing UCC administrative hierarchy. If the School (or indeed any part of UCC) is to flourish, its nature, needs and activities must be fully appreciated. Sadly this does not appear to be the case with everyone we met. While some senior members of the UCC administration had a clear idea of the School and its structure, others clearly did not; a glaring deficiency was apparent regarding the perceived research record of the School. Accordingly we recommend that senior members of UCC and the School clarify questions of hierarchy, representation and visibility as a matter of urgency; and further that the treatment, performance and morale of the School are not undermined by a lack of information and comprehension amongst those with administrative responsibility.

   There are several very visible manifestations of the ambiguous position of the School. For example, Faculties such as Commerce, Arts and Engineering deal only with Departments, and there are circumstances where the School Chairperson is therefore ineligible to attend those Faculty meetings *to represent the interests of the School*. Another example relates to budgeting. The Finance Office and Faculty of Science deal with the School as a single entity, while the Library maintains budgets

on a per-Department basis. Finally, new academic staff are being appointed to individual Departments rather that to the School itself.

ii) The intention to reduce administration by rationalisation has not been realised and in practice an extra layer of bureaucracy has been created, with an excessive amount of wasteful overlap and duplication. A small executive team to reduce the excessively frequent Departmental meetings and bureaucracy might be a way forward, but in any case we recommend that mechanisms to achieve efficiency across the board be sought as a priority.

iii) The PRG was concerned that after 8 years, integration had remained a major issue. The Mathematical Sciences certainly need people with a passionate commitment to the teaching of and research in the core topics. Without them the subject will eventually ossify. Equally it needs those with a passionate commitment to applications, from the traditional to the new, and to taking advantage of funding opportunities. Without them the subject may wither. Naturally there will be a tension between these two groups but it should be - and usually is – productive. Unfortunately it appears that some specific concerns have been allowed to take a disproportionate amount of the School's time and energy and risk undermining potentially productive changes. The new Heads of Applied Mathematics and Statistics have brought new vision and leadership to the School; we can hope their success will encourage others to follow.

The School should count itself fortunate that it includes outstanding people who when working together can achieve far more than they can individually. While appreciating the complex history and natural concerns for academic integrity, the PRG urge the School to have more confidence in itself and to recognise that there is strength in size and diversity and that the inter-departmental “walls” should be low enough to identify the characteristics of the separate departments without interfering in the operation of a single integrated School. This is actually hindering the School from realising its full potential. The PRG hope that with a satisfactory resolution of the operational issues, a full and true integration will come about, to the benefit of all.

Academic Staffing

The School has a significant number of senior academic staff (roughly half at Professor and Associate Professor levels) with a corresponding issue in terms of an age imbalance. We understand that there will be 4 retirements within the next 5 years, and recommend that these vacancies be filled at Lectureship level.

We understand that, in connection with the new degree in Financial Mathematics and Actuarial Science, the School has received permission to fill an Associate Professorship in Financial Mathematics and a Lectureship in Statistics (Actuarial Science), and we believe it is imperative that these positions be filled. This degree is a significant one for the School and UCC, and a visible outcome of what can be achieved from positive cooperation between the Departments within the School. The School should endeavour to encourage and support good research in the newer area of financial mathematics and actuarial science, and UCC should recognise that this goes hand in hand with the development of the new degree programme.

The PRG understand that, in connection with the appointment of the Professor of Applied Mathematics, UCC formally committed to also appoint a Senior Lecturer position in Applied Mathematics, and that in fact this fact was stated in the advertisement for the Professorship and subsequently reaffirmed at the interview. This position must be filled by UCC as a matter of the highest priority.

An Associate Professor in the Department of Mathematics will retire later this year. In light of this we recommend that UCC grant the School a new Lectureship in Mathematics, reaffirming their commitment to Mathematics as it underpins so many other disciplines in UCC.

The School has no permanent female members of academic staff. This is out of line with the numbers of female students in the School, but does not appear to be due to any deliberate policy on the part of the School or UCC. As new positions arise, the School should certainly encourage female applicants as much as possible.

The high dependence of the School on part-time and temporary staff puts it at risk during periods of cutbacks and change. Such staff clearly make very valuable contributions to the School, but consideration should be given to reducing this high dependence with a move towards more full-time and permanent staff, which in turn would only help in improving the research output and profile of the School.

Degree Programmes

We very much welcome and support the School's recommendation that it seek to consolidate existing programmes and seek to develop new ones with Computer Science and the Biosciences. In particular it appears that consolidation is especially important in the Financial Mathematics and Actuarial Science and revised Mathematical Sciences degrees.

The School should conduct a thorough review of its offered modules with a view to rationalisation – reducing the amount of staff time committed to existing undergraduate programmes with a view to developing new programmes, including those at taught postgraduate level.

The PRG was initially alarmed at the fact that some modules appeared to have very few students. We were advised that the School has had a practice of overlapping the teaching of several different modules, so that in practice the number of students in lectures is the sum of all the students for the modules concerned. In practice this makes it appear that the School is teaching many more modules than it is actually delivering, and that it seems to be teaching to very small classes in some cases. The PRG strongly support the elimination of this practice as a matter or urgency.

Regularise the position of The Statistical Laboratory Consultancy Unit

The Statistical Laboratory Consultancy Unit is clearly doing an excellent job for UCC as a whole, but its performance is inhibited by the anomalous position of a Director being on leave for many years. The Laboratory is being managed by an Acting Director, and the position normally held by that person must be renewed annually, causing a lack of

continuity and learning-curve issues. This situation should be remedied by UCC as a matter of urgency. The laboratory has educational value for students in the School and makes an important contribution to research in many areas of UCC. Its position with respect to the School needs formal clarification in view of the School's remit. This process of clarification should also regularise the budgetary and staffing arrangements of the StatsLab vis-à-vis those of the School. As part of the review we recommend that UCC also consider the nature of the position of Director in relation to the dual administrative and academic roles (impacting on the School, UCC in general, and the community at large).

Review the title of the School

The current formal title of the School – "School of Mathematics, Applied Mathematics and Statistics" – is long and unwieldy. We noted that, informally, many staff have adopted the more convenient form "School of Mathematical Sciences". We strongly recommend that the School adopt a shorter title.

Administrative Staffing

We recommend that UCC conduct a review of the level of administrative staffing and the level of technical staffing in the School, and if necessary appoint additional staff to ensure that the School is in line with the established UCC norms. In conducting the review of administrative staffing, it would not be appropriate to count staff of the Statistical Laboratory or the Systems Administration Manager as members of School administrative staff.

Computer Laboratories

Many students majoring in School degree programmes commented on the difficulty of getting access to computers outside of scheduled laboratory hours. For the most part these students use one or two specialised mathematical software packages, currently only available on computers within the School. It appears a relatively straightforward solution to this problem is for UCC to agree to purchase a site-licence for these software packages and have the Computer Centre make them available on all "open-access" computers. This

will result in an immediate improvement for the students and should also result in significantly decreased demand for the School's computers. We strongly recommend that UCC purchase such site licences and have them in place for the next academic year.

Space

The PRG toured the physical facilities of the School and Statistical Laboratory. We observed that much of the space needs refurbishment and maintenance – we saw buckets in several locations to catch rainwater from leaking roofs. We recommend that UCC act quickly to complete all essential maintenance. The accommodation for researchers and research postgraduates was very cramped. Computer Laboratories were excessively warm (bearing in mind this review was conducted in March), we understood partly due to faulty air conditioning units. We recommend that UCC repair or replace these faulty units before the coming summer. Staff offices are not contiguous, and if space becomes available in the current building (for example if the Faculty/Department of Law move out) we recommend that the School be given top priority for addressing its needs for maximising contiguous office space and providing additional space for researchers and postgraduates. The PRG do not feel that the case for a dedicated Mathematical Sciences building was justified, considering both the contents of the report and having observed current facilities.

Finally, the lecture rooms also needed attention. In view of future developments, consideration should be given to their size and location.

Image

Improving the School's image is crucial to its future. Mathematicians can be uncomfortable with the idea of publicity but in these cost-conscious times they have a responsibility to ensure that the importance and the value of their subject is fully appreciated by those inside and outside UCC. For example, it was clear that the Office of the Vice-President for Research has out-of-date statistics on the level of publication within the School. While not necessarily the fault of the School, such misconceptions are very damaging and the School needs to take steps to promote their strengths and become more

visible within UCC and the external community. The School website needs to be upgraded significantly, especially in regard to highlighting research strengths and opportunities for collaboration.

External Relations

The School has educated many successful alumni, and the small sample that the PRG met were justifiably proud of their alma mater. Good alumni can be an excellent resource for UCC, and the PRG feel that the School should compile and maintain a good database of its former students. Regular contact with past graduates (for example through a regular School newsletter) can be very useful in providing links for work experience and job opportunities, but also as a vehicle for making sure the image of the School is maintained externally at a justifiably high level.

Staff Student Relations

The establishment of School/Student committees and the formulation of a policy on staff availability, as suggested in the Self Assessment Report, is to be strongly encouraged. Many staff use anonymous student surveys to obtain feedback, and we recommend that these be used in each module taught by the School. Several staff and students highlighted the UCC-wide issue of poor attendance at lectures; this is an issue that should be considered at the highest levels in the University.

Appendix A

Timetable for conduct of Peer Review Visit

School of Mathematics, Applied Mathematics & Statistics
Boole Centre for Research in Informatics
Statistical Consultancy Services

Wednesday 10th March 2004

18.00 Meeting of members of the Peer Review Group
Briefing by Director of Quality Promotion Unit, Dr. N. Ryan.
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.

20.00 Dinner for members of the Peer Review Group and members of the School

Thursday 11th March 2004

08.30 Convening of Peer Review Group

Consideration of Self-Assessment Report

09.00 Dr. James Grannell, Head of School

09.30 Professor Gerard Murphy, Head, Department of Mathematics

09.45 Professor Finbarr O'Sullivan, Head, Department of Statistics

10.00 Professor Alexei Pokrovskii, Head, Department of Applied Mathematics

10.15 Professor Patrick Fitzpatrick, Co-Director, BCRI
Dr. John Morrison, Co-Director, BCRI

10.30 Kathleen O'Sullivan, Acting Director, Statistical Laboratory Consulting Unit

11.00 Administrative staff
Ms. Teresa Buckley, Administrator
Ms. Michelle Glynn, Executive Assistant
Ms. Helen McCarthy, Senior Executive Assistant
Ms. Kate O'Brien, Senior Executive Assistant

11.20 Mr. Paul Keegan, System Administrator

11.30 Professor Des MacHale

11.40 Dr. Donal Hurley

11.50 Professor Patrick Fitzpatrick

12.00 Meeting with all staff of the School

13.00 Working private lunch for members of Peer Review Group

14.00 Visit to core facilities of Department. PRG escorted by Professor F. Holland

Meetings with representative selections of students and researchers

14.30 Undergraduate Students from mainstream programmes in School of Maths

Tony Blake, BSc1 Physics/Astrophysics
David O'Regan, BSc1 Mathematical Sciences
Tommy Murphy, BSc2 Mathematical Sciences
Thomas Ralph, BSc2 Financial Mathematics and Actuarial Science

Michael Dalton, BA2 Mathematical Studies
Alva Sheehy, BSc3 Applied Mathematics and Physics
Kara Cashman, BSc3 Applied Mathematics and Physics
Michael Clifford, BSc4 Joint Honours Maths and Statistics

15.00 Undergraduate Students from programmes in other Faculties taking courses offered by School of Maths.

Richard Leonard, BE1 Civil
Jennifer McCarthy, BSc1 Biochemistry
Richard Roche, BSc1 Computer Science
Ciara Hickey, BComm1
Justin Byrne, BSc2 Chemistry
Elaine Fennelly, BSc2 Nutritional Sc
Richard McSweeney, BE2, MicroElec
Ann Harty, BComm3

15.45 Postgraduate Students

Aidan Naughton, PhD2 Mathematics
Fergal O'Doherty, PhD2 Applied Mathematics
Michael Cronin, PhD2 Statistics
Julie O'Donovan, MSc1 Mathematics
Denis Fynn, MSc1 Applied Mathematics
Sinead O'Neill / Fiona Gilmore, MSc1 Statistics
Timothy Hanley, MA1 Curriculum Studies
Aonghus O'Connor, HDip Applied Mathematics (Modelling & Numerical Computing)

16.15 Researchers

Dr. Massimiliano Sala
Dr. Slava Voronovitch
Dr. Oleg Rassakazov
Professor Vladimir Sobolev
Dr. Michelle Byrtek
Dr. Jian Huang

Meetings with individual members of staff

16.35 Dr. Gareth Thomas

16.45 Ms. Teresa Buckley

16.55 Dr. Michael O'Callaghan

17.15 Meetings with representative selections of recent graduates, employers and other stakeholders as appropriate

Employers :

Mr. Michael Fitzgerald, Mercer Human Resource Consulting, Cork
Mr. Gerard Healy, Central Statistics Office, Cork
Mr. Kevin Kelly representing Dr. Brendan Murphy, Director, Cork Institute of Technology
Mr. John Sullivan, Interactive Reporting, Cork.

Recent Graduates
Ms. Sarah Croke, BSc Joint Honours (Applied Mathematics & Physics)
Mr. Paul Dowdall, H.Dip in Applied Mathematics (Modelling & Numerical Computing
Dr. Áine Ní She, PhD in Mathematics
Ms. Aoife O'Connor (& working in Mercer Human Resource Consulting)
Dr. Violeta O'Rourke, PhD in Mathematics
Mr. Cillian Ó Tuama, BSc Joint Honours, (Applied Mathematics & Maths)

Clients of the Statistical Consultancy Unit
Dr. Pat Dillon, Teagasc, Moorepark, Fermoy, Co. Cork
Professor John O'Halloran, Department of Zoology, Ecology & Plant Sciences
Dr. Ethel Quayle, Department of Psychology, UCC

19.00 Meeting of Peer Review Group to identify remaining aspects to be clarified and to finalise tasks for the following day, followed by a working private dinner members of the Peer Review Group.

Friday 12th March 2004

08.30 Convening of Peer Review Group

09.00 Professor Aine Hyland, Vice-President

09.30 Visit to Q+2, Boole Library, meeting with Ms. Margot Conrick, Head of Information Services and Ms. Úna Ní Chonghaile, Subject Librarian

10.15 Professor Peter Kennedy, Dean, Faculty of Engineering

11.00 Professor David Cox, Dean, Faculty of Arts

11.15 Professor Paul Giller, Dean of Faculty of Science

11.45 Ms. Carmel Cotter, Finance Office

12.00 Professor Kevin Collins, Vice-President for Research Policy & Support

12.30 Professor Gerard Murphy, Head, Department of Mathematics
Professor Finbarr O'Sullivan, Head, Department of Statistics and Statistical Consultancy Services
Professor Alexei Pokrovskii, Head, Department of Applied Mathematics

13.00 Working private lunch for members of Peer Review Group

14.00 Dr. James Grannell, Head of School

14.30 Preparation of first draft of final report

17.00 Exit presentation made to all staff of the Department by the Chair of the Peer Review Group, summarising the principal findings of the Peer Review Group.

19.00 Working private dinner for members of the Peer Review Group to complete drafting of report and finalisation of arrangements for speedy completion and submission of final report.

Saturday 13th March 2004

Externs depart