

**University College Cork
National University of Ireland, Cork**

Quality Improvement/Quality Assurance

Peer Review Group Report

Department of Electrical and Electronic Engineering

Academic Year 2004/05

30th May 2005

MEMBERS OF THE PEER REVIEW GROUP:

Professor Patrick Fitzpatrick (Chair), School of Mathematical Sciences, and Acting Dean of Science, UCC

Professor Colin Hill, Department of Microbiology, UCC

Dr. Colin Lyden, Analog Devices, Ireland

Professor Julian Gardner, Professor of Electronic Engineering, and Dean of the School of Engineering, University of Warwick

TIMETABLE OF THE SITE VISIT

The timetable is inserted as Appendix A.

The timetable arranged by the Self Assessment Committee in conjunction with the Quality Promotion Unit was entirely satisfactory and the Department organised for the appropriate interviewees to be available on time. In particular, the tour of the facilities required many members of staff, both academic and technical, to be on hand to explain and demonstrate equipment. The only change requested by the PRG was to add to the schedule an interview with Mr. Michael O'Sullivan, Vice-President for Planning, Communications & Development.

PEER REVIEW

All four members of the PRG were present throughout the site visit and participated fully in all of the interviews. The two external members were primarily responsible for setting the agenda on research. The PRG were welcomed by the Department and received full cooperation in all aspects of the visit.

The members of the PRG took extensive contemporaneous notes during the interviews. The second afternoon was devoted to preparing the main lines of the report, with all members of the PRG contributing. The notes of this discussion, recorded and written up with the assistance of Ms. Aoife Ní Néill, formed the basis of the exit presentation. Professor Fitzpatrick wrote the first version of the draft report,

which then went through several rounds of redrafting via email with the other members of the group.

OVERALL ANALYSIS

Self-Assessment

The self-assessment report is comprehensive and succinct. It does not include the Department's recently developed Strategic Plan, but this is conveniently available as part of the documentation for the recent accreditation visit of the Irish Engineering Institute (IEI), also provided to us. We pointed out a number of minor errors in the compilation of data; other comments on the self-assessment report will become apparent as we present our findings.

The Department has an excellent undergraduate programme which is highly valued by its staff and students alike. Likewise, it has developed a strong cohort of research Masters and PhD students and is beginning to attract postdoctoral researchers. There are several high quality research programmes led by enthusiastic and committed researchers, and funded, to a certain extent, under competitive research award schemes. There is a well-established collegial atmosphere among all sections of the staff (academic, technical, and administrative) and a spirit of cooperation in the good organisation of the Department.

Among our main findings, we recommend that the Department develop taught Masters and continuing professional development courses, that it establish transparent mechanisms for equitable distribution of overall workloads, that it undertake systematic financial planning with an appropriate degree of openness of data to all staff, and that it take a strategic view of its development of research programmes, especially by building relationships with outside research groups. Our principal recommendation is that the Department react more forcefully to the recent decline in student numbers as part of an overall strategic plan.

FINDINGS OF THE PEER REVIEW GROUP

DETAILED ANALYSIS AND FINDINGS

In the following sections the report will be organised around the following main headings

- **undergraduates (and taught Masters, Continuing Professional Development)**
- **research postgraduates, postdoctoral researchers, research officers**
- **staff and department organisation**
- **finance**
- **research**
- **forward planning.**

In each case we comment on the information provided to us in the Self-Assessment Report, as clarified and elucidated in the interviews we conducted, and make our recommendations. We end with some overall comments and recommendations.

UNDERGRADUATES (AND TAUGHT MASTERS, CONTINUING PROFESSIONAL DEVELOPMENT)

The undergraduate student experience of the Department is very positive and students are challenged and stimulated by their programmes of study. They are particularly enthusiastic about the Third Year placement, but also spoke highly of the quality of the practical courses and the facilities on offer to them, including substantial access to the Department outside of normal hours. The quality of the physical environment is very good and the Department is well-resourced. The broadly-based degree is widely regarded as a strength, not only by the staff and students in the Department but also by graduates and the industry representatives interviewed, and there is evidence that it is leading to careers in non-traditional areas outside the mainstream of EEE, such as banking and finance, where the students are valued for their technical expertise, their problem solving skills, and their ability to absorb new techniques. The staff-student committee seems to be well established, and students perceive staff as friendly and helpful, and feel comfortable in approaching them directly when they have problems.

Students at all levels of the undergraduate programme expressed concern about difficulties in absorbing lecture material and preparing for upcoming lectures because

of the high numbers of lectures in the programme. This problem may well be exacerbated if a growing proportion of weaker students gain access to the degree course. We recognise that there may be outside pressure from the IEI accreditation process to deliver a certain minimum level of material in the form of direct contact. Nevertheless we suggest that, for instance, a lecture load of 8 modules of 48 lectures, and a 15 credit project module, is approximately equivalent to 19 modules of study, while the University norm is 12 modules. Perhaps a number of tutorial or revision lectures (within the existing lecture load) could be considered. In the later years students should perhaps have more time for self-motivated and self-directed learning. It would also be helpful to compare the undergraduate programme not only against other Irish institutions but also against prestigious universities abroad.

We do not have sufficient insight into the IEI standards to make a definite recommendation in this regard, other than that this issue be considered afresh.

Recommendation: that the Department reconsider student workloads, in the light of University, Irish, and international norms, and from the perspective of the overall educational experience, especially in the Fourth Year.

It was suggested to us that students would value the opportunity to study modules drawn from outside the EEE curriculum, in areas such as business, ethics, environmental awareness, or a language. The PRG is aware that the IEI accreditation process also recommends such “broadening” options and that the Department has considered introducing them in the context of the Bologna Agreement (Strategic Plan, Section IV). We recommend that this initiative be advanced, independently of the Department’s response to the Bologna Agreement.

Recommendation: that the Department extend its curriculum to permit students to choose a limited number of appropriate modules from outside the EEE curriculum in areas of value to the practising engineer, independently of its response to the Bologna Agreement.

While students are generally at ease in discussing any issues they have about the delivery of EEE modules directly with the lecturers concerned or through their class

representatives, it does seem that they may be more reluctant to raise concerns about service teaching modules.

Recommendation: that the Department curriculum committee work closely with the service teaching departments to ensure that their materials are geared to the EEE curriculum, and that their lecturers liaise with student representatives and the EEE staff-student committee to ensure that any problems are dealt with in a timely manner.

There are currently no taught Masters programmes in the Department, although the Department contributes to the MEngSc in Microelectronic design. A taught Masters in Mechanical Engineering will soon be offered and the Department will contribute to another in Renewable Energy Systems (anchored in the Department of Civil Engineering). We support these particular proposals and encourage the Department to develop further in this direction. We also became aware of a significant level of interest among the established engineering community in Continuing Professional Development, in view of the fast-changing nature of the discipline. We recognise that this is included in the Department's Strategic Plan (Section VI) and view its development as potentially very significant.

Recommendation: that the Department carry out market analysis with a view to the development of further programmes at the taught Masters level.

Recommendation: that the Department develop programmes in Continuing Professional Development, after appropriate market analysis.

The Bologna Agreement emerged as a topic of considerable discussion within the Department, and particularly in the Strategic Plan. There seems to be a significant potential opportunity for the Department to pioneer, among the Irish universities, the establishment of a revised 3+2 curriculum, in line with the Agreement and in accordance with the recommendations of the IEI. However, there is also a serious potential threat in terms of a possible reduction in government funding, in addition to the substantial workload that would be required in the development of such a

programme, without short-term advantage. This issue is being widely debated at university level and we support the Department in exploring its options.

Recommendation: that the Department work with the University administration in carrying out a cost-benefit analysis of the early implementation of the Bologna Agreement in the Department.

RESEARCH POSTGRADUATES, POSTDOCTORAL RESEARCHERS, RESEARCH OFFICERS

The Department has significantly expanded its postgraduate numbers, at both Masters and PhD level, in recent years. In addition, there are now several postdoctoral researchers, some of whom are from outside Ireland. The facilities provided for postgraduates and researchers are generally good, with each having access to a personal space with workstation, as well as laboratory bench space. The PhD students are very aware of what is expected from them during their studies, in terms of presentation of research plans and results, both within the Department and at conferences.

The research postgraduates were conscious of the need to develop generic skills in areas such as bibliographic research, report writing, research methodology, and so on. We are aware of that such courses will soon be offered on a university-wide level and recommend that the EEE research students be encouraged to participate.

The postgraduate students conduct their research programmes almost exclusively within the physical and intellectual environment of the department, and in our opinion their postgraduate experience could benefit from a more pro-active attempt by supervisors to place students in other laboratories for short periods.

Also, if the Department is to deliver on its plans to further increase the number of postgraduate and postdoctoral numbers, it will have to consider the space and facilities implications of continuing to provide the same levels of service.

Recommendation: that the Department consider the overall education and guidance of research postgraduates and postdoctoral researchers to ensure that these groups are provided with a continuing high level of supervision, technical

support, and facilities, and that opportunities are sought to provide them with wider perspective in their studies.

The absence of career paths for postdoctoral researchers and research officers emerged as a significant issue. Of course, we recognise that this is shared with others in similar situations throughout the university, and that it is the subject of discussions at various levels, particularly in the light of the recently legislated Fixed Term Workers Act. However, those in the Department feel themselves to be somewhat isolated in their concerns and without a clear route by which to address them.

Recommendation: that the Department engage in discussions with appropriate authorities, such as the Office of the Vice President for Research and the Department of Human Resources, to represent the interests of postdoctoral researchers and research officers in developing their career paths.

STAFF AND DEPARTMENT ORGANISATION

There is an established, collegial atmosphere among all sections of the staff (academic, technical, and administrative). The staff has a strong – and we believe justified – sense of pride in what they are doing, in their discipline, in their teaching and research, and in the quality of the technical and administrative support they offer (and this is obviously transmitted to the students). There is an extensive committee system in place for the organisation of department administration.

However, it is apparent that some members of the academic staff perceive that workloads, including committee work (within the Department, and outside at Faculty and University levels), formal teaching, research supervision, and personal research are not uniformly distributed. Of course, this is a multi-faceted problem, which is evident throughout the University, and we recognise that there is no easy solution on a University-wide basis. Nevertheless, it is our opinion that it can be addressed in the self-contained environment of the Department and that it needs to be addressed as a matter of urgency.

Recommendation: that academic staff workloads – in the areas of teaching, administration, and research supervision, among others – be examined with a

view to the establishment in the Department of a transparent allocation model that ensures relative equity of overall workload distribution.

A number of staff expressed concern regarding the University promotion scheme. We are aware that this scheme is the subject of ongoing consideration at University level, and we therefore make no recommendation, leaving it to the Department and individuals to make representations through the appropriate channels (Faculty, Promotions Committee, Department of Human Resources). We also treat in the same way the issue of staff appraisal which we are aware will shortly be introduced for all staff in the University.

The technical staff provide a very high quality service throughout the Department (and indeed also sometimes in response to outside requests). We were pleased to learn of the forthcoming implementation of a national agreement on career structures for these staff. It is of some concern that they are not encouraged or facilitated to attend appropriate retraining courses, although it may be the case that they have so effectively provided their own in-house “up-skilling”, when required, that this was not perceived as an issue.

Recommendation: that the Department make appropriate provision for continuing professional development of its technical staff.

The day-to-day administration of the Department is carried out very effectively in spite of continually growing demands placed on the Department Administrator by the devolution of tasks from the central administration of the University. We have a serious concern that this places an unreasonable burden on one person, who must effectively operate without back-up.

It is perceived by the Department that research support, that is, the administration of research grants, is a significant and growing requirement. However, it is not clear to us that the appointment of an in-house research administrator is the most efficient way to handle this issue. It may well be possible to ‘contract’ such administrative duties to other Centres within the University. In any case, such support should be provided from the Department’s own resources.

Recommendation: that the Department immediately seek to improve the staffing levels in the area of administrative support.

FINANCE

The Department has a relatively healthy income from University core grant, government skills initiative allocations, and non-EU student fees. Indeed, considering a number of comments that we heard to the effect that the Department was relatively impoverished, we were surprised to learn that there was a significant surplus carried forward to the current academic year. We do not accept that further university funding is required to carry out minor works such as upgrading the projection facilities (Strategic Plan, Section VII), nor indeed for the upgrading of the Department website (Strategic Plan, Section VI). There seems to be a level of disagreement between the Self-Assessment Report and the Strategic Plan as to whether or not such improvements (and others such as the provision of a permanent air-conditioning unit in the CAD laboratory) should be provided from within current Department resources.

There is an apparent lack of transparency on financial matters within the Department, as well as an apparent absence of financial planning for future needs, such as replacement of computer laboratory and workshop equipment.

Recommendation: that financial planning be undertaken systematically by the Department, and that financial information be provided, at appropriate levels of detail, to all staff.

RESEARCH

The Department has a very good track record in long-term industry-focussed research and has a corresponding high level of research funding. In recent years the emphasis has broadened to include an emphasis on peer-reviewed journal publication, and prestigious conference publication, as a high priority. While this is an entirely laudable development, it must not be allowed to displace the industry-focussed research effort. Indeed, it would be advantageous that new opportunities for industry interaction be kept under review.

The Department has been very successful in winning competitive grants through Enterprise Ireland and the IRCSET scheme, although the competitive research income per capita is not high. As mentioned earlier, the numbers of research postgraduates and postdoctoral researchers has risen sharply in the last five years.

The Self-Assessment Report provides a detailed analysis of research income levels, postgraduate and postdoctoral numbers, and numbers of publications. While this is presented in a satisfactory framework, we noted a small amount of double-counting in the formulation of averages (where more than one member of the Department had contributed to the same paper), and it is our opinion that the publication rate is relatively low in proportion to the level of research funding and research activity in the Department . It may be the case that the recent growth in numbers of research postgraduates and postdoctoral researchers has not yet translated itself into publications, but nevertheless, it is essential that the Department as a whole continues to embrace a research ethos, and views success in research as a Departmental effort. One possible instrument for the enhancement of research is the establishing of a Research Committee.

The Self-Assessment Report contains a good initial exercise in benchmarking against UK universities by the application of the RAE norms, and we believe this is worthwhile and should be continued; if possible, it should be extended to comparisons with other Irish Universities.

Since the Department is small there does not seem at present to be sufficient numbers of research leaders in any one area to provide the critical mass required for substantial research groups. This problem may be addressed by attracting senior researchers into the Department for periods of time (e.g. via Walton Fellowships, SFI Investigator awards, Marie Curie Fellowships), by reaching out to research groups in other disciplines (e.g. biosciences, computer science), and by forming strategic alliances with research centres (e.g. Tyndall Institute, BioSciences Institute, Environmental Research Institute, Boole Centre).

Notwithstanding these comments, we acknowledge that some of the individual research programmes already in the Department are of extremely high quality and

have already attracted SFI and other funding, and this individual activity should also be encouraged and supported.

Recommendation: that the Department take a strategic view of the development of its research, possibly through the establishment of a Research Committee; that it aim to build substantial research groups, either in-house or through alliances with researchers outside the Department; that a mixture of industry-focussed and frontier research be maintained; that every effort be made to ensure that research is translated into publication; that research active staff are supported, to the extent that this is possible, through the adoption of a transparent workload model.

FORWARD PLANNING

The most significant threat to the Department – which it clearly recognises – is the recent and continuing fall in undergraduate student numbers. This is not a uniquely UCC phenomenon but is part of a broader issue facing Electrical Engineering programmes across the country. It has the concomitant effect of reducing the entry points level, which may lead to a perception among school leavers that the prestige and value of the EEE programme has diminished. The intake of students with lower points than before may also have contributed to the higher failure rates noted by the External Examiner in his 2004 report.

At present, the student-staff ratio is 15.5:1, and this will decline further as the numerically small cohorts of students in the early years of the undergraduate programme work their way through the system.

We were concerned that the Department has not reacted more forcefully to these developments. It appears hopeful that the recent downturn is cyclical and that demand will return to previous levels over time. While this may well turn out to be the case, this confidence in an imminent up-swing was not reflected by the employers we met, nor were we given any rigorous analysis to support this view. We believe that the Department must develop a robust strategy to deal with the falling numbers of students, and to carry out an aggressive campaign to target and attract students to the degree programme.

We can venture several suggestions to alleviate the current difficulties, such as further efforts to market the programmes on offer, including the possible provision of alternative programmes for weaker students, outreach courses (by way of service teaching in other areas, and taught postgraduate and continuing professional development courses, as mentioned earlier), further efforts to attract students from non-traditional markets (Irish students from outside Munster, EU and non-EU students), and changes in the curriculum to attract a different type of student (building on the attractiveness of a broadly-based degree leading to a wider variety of occupations than in the past). It should also be possible for the Department to work cooperatively with cognate departments in the provision of schools liaison and the promotion of Engineering to school leavers. This may entail contributing to the cost of an Outreach Officer by way of a top-slice on the Faculty budget.

We were also surprised at the wariness with which the University restructuring process is apparently viewed (witness the postscript in the Self-Assessment Report). In our view, the development of a School structure for Engineering, and/or the participation of the Department in developing such structures with cognate units outside the Faculty, has clear potential benefits, such as the protection of constituent units through downswings in student numbers, and the establishment of research groups of sufficient size to be competitive on a national and international scale.

Recommendation: that the Department make improvements in its strategic planning process; that it further develop its Strategic Plan, setting clear priorities in short-, medium-, and long-term objectives, in the light of continuing market analysis; that it adopt a more outward-focussed view in establishing itself as a significant component of the wider University community; that it embrace the University restructuring process as an opportunity for further development of the discipline of Electrical and Electronic Engineering.

We remark that, while, as reviewers of the Department of EEE only, we could not see the full picture of its relationship with the Department of Microelectronic Engineering, nevertheless we believe that the two Departments should be fully amalgamated. Even though this may lead in the short-term (and we did not have

access to the figures to judge) to a further decrease in student-staff ratio, the benefits of having the two groups working together in terms of the added diversity of research interests, the potential gains in efficiency in administration and management, and the presentation of a unified structure to the outside world, especially to prospective students (and their parents), would outweigh any short-term disadvantages.

Recommendation: that the Department of Electrical and Electronic Engineering and the Department of Microelectronic Engineering, together with the University, consider the full amalgamation and co-location of the two Departments.

CONCLUDING REMARKS

We believe that the Department of Electrical and Electronic Engineering is delivering a quality education to its undergraduate and postgraduate students, but finds itself at a crucial stage given a rapidly changing environment (e.g., declining student numbers, restructuring of the University, Bologna), but that with appropriate leadership it can emerge reinvigorated into the next stage of its development.

SUMMARY OF RECOMMENDATIONS

- 1. That the Department reconsider student workloads, in the light of University, Irish, and international norms, and from the perspective of the overall educational experience, especially in the Fourth Year.**
- 2. That the Department extend its curriculum to permit students to choose a limited number of appropriate modules from outside the EEE curriculum in areas of value to the practising engineer, independently of its response to the Bologna Agreement.**
- 3. That the Department curriculum committee work closely with the service teaching departments to ensure that their materials are geared to the EEE curriculum, and that their lecturers liaise with student representatives and the EEE staff-student committee to ensure that any problems are dealt with in a timely manner.**
- 4. That the Department carry out market analysis with a view to the development of further programmes at the taught Masters level.**
- 5. That the Department develop programmes in Continuing Professional Development, after appropriate market analysis.**
- 6. That the Department work with the University administration in carrying out a cost-benefit analysis of the early implementation of the Bologna Agreement in the Department.**
- 7. That the Department consider the overall education and guidance of research postgraduates and postdoctoral researchers to ensure that these groups are provided with a continuing high level of supervision, technical support, and facilities, and that opportunities are sought to provide them with wider perspective in their studies.**

- 8. That the Department engage in discussions with appropriate authorities, such as the Office of the Vice President for Research and the Department of Human Resources, to represent the interests of postdoctoral researchers and research officers in developing their career paths.**
- 9. That academic staff workloads – in the areas of teaching, administration, and research supervision, among others – be examined with a view to the establishment in the Department of a transparent allocation model that ensures relative equity of overall workload distribution.**
- 10. That the Department make appropriate provision for continuing professional development of its technical staff.**
- 11. That the Department immediately seek to improve the staffing levels in the area of administrative support.**
- 12. That financial planning be undertaken systematically by the Department, and that financial information be provided, at appropriate levels of detail, to all staff.**
- 13. That the Department take a strategic view of the development of its research, possibly through the establishment of a Research Committee; that it aim to build substantial research groups, either in-house or through alliances with researchers outside the Department; that a mixture of industry-focussed and frontier research be maintained; that every effort be made to ensure that research is translated into publication; that research active staff are supported, to the extent that this is possible, through the adoption of a transparent workload model.**
- 14. That the Department make improvements in its strategic planning process; that it further develop its Strategic Plan, setting clear priorities in short-, medium-, and long-term objectives, in the light of continuing market analysis; that it adopt a more outward-focussed view in establishing itself as a significant component of the wider University**

community; that it embrace the University restructuring process as an opportunity for further development of the discipline of Electrical and Electronic Engineering.

- 15. That the Department of Electrical and Electronic Engineering and the Department of Microelectronic Engineering, together with the University, consider the full amalgamation and co-location of the two Departments.**

Timetable for conduct of Peer Review Visit

Department of Electrical & Electronic Engineering

Wednesday 27th April 2005

- 17.30 Meeting of members of the Peer Review Group
Briefing by Dr. Norma Ryan, Director, 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.
- 19.30 Dinner for members of the Peer Review Group and Head of Department and
Departmental Co-ordinating Committee.

Thursday 28th April 2005

- 08.30 Convening of Peer Review Group in Meeting Room, Electrical Engineering Building
- All meetings take place in this room unless specifically indicated otherwise
- Consideration of Self-Assessment Report
- 09.00 Professor Robert Yacamini, Head of Department
- 09.30 Meeting with members of the co-ordinating committee responsible for preparation of the
Self-Assessment Report
- Professor Robert Yacamini
 - Dr. Liam Marnane (Chair)
 - Professor Patrick Murphy
 - Dr. Bill Wright
 - Mr. Olan Dwyer
 - Dr. Richard Morrison
 - Ms. Geraldine Mangan
 - Dr. Alan Morrison
 - Dr. Michael Egan
 - Dr. Colin Murphy
- Venue: L3, Electrical Engineering Building
- 10.30 Tea/Coffee for all staff of Department + PRG in foyer of Electrical Engineering Building
- 11.00 Time allowed for private meetings of members of the Peer Review Group with members
of staff.
- A number of members of department met privately with the PRG during this time period.
- 13.00 Working private lunch for members of Peer Review Group

14.00 Professor Aine Hyland, Vice-President

14.30 Representatives of 4th Year Undergraduate Students

- Kenneth McDonnell (Class Rep)
- Niall Murphy
- Mariana Rezende
- Gearoid O'Brien
- Richard Leonard
- Aidan Corbett

Venue: L3, Electrical Engineering Building

15.00 Professor Peter Kennedy, Vice-President for Research (and former Dean of Engineering)

15.30 Representatives of 1st and 2nd Year Undergraduate Students

1st Years

- Declan Gordon
- Vincent Power
- Simon O'Regan

2nd Years

- Bradford Peyton
- Ruaidhri Murphy
- Michael Daly
- Kieran Coughlan (class rep)

Venue: L3, Electrical Engineering Building

16.00 Representatives of Postgraduate Students

- Stephen Faul (Post Grad Class Rep)
- Ken Healy
- Cillian O'Driscoll
- John O'Sullivan
- Cormac O'Hare
- Darine Frawley

Venue: L3, Electrical Engineering Building

16.30 Representatives of Researchers

- Richard Morrison
- John Slowey
- Dara O'Sullivan
- Daithi Power
- Tim Kerins
- Koen van Dongen
- Chuanbo Li

Venue: L3, Electrical Engineering Building

17.00 Representatives of recent graduates, employers and other stakeholders

Venue: L3, Electrical Engineering Building

- Mr. Liam Wall *SensL Technologies Limited*
- Mr. Richard McKeon, *Pfizer*
- Mr. Donal Ó Caoimh, *Bord Gais*
- Mr. Paul Sheehan, *Cypress Semiconductor*
- Mr. John Hennessy, *S3 Group*
- Mr. Conor Goggin, Physics Teacher, Presentation Brothers College
- Mr. Douglas Kelleher, Member of Governing Body
- Mr. Tony Dunne, *Freescale*
- Mr. Graham Connolly, *ESB International*
- Mr. Chris Hannon, *Smurfit*

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 for members for the Peer Review Group.

Venue: Suite 1, Business Centre, Kingsley Hotel, Cork

Friday 29th April 2005

- 08.30 Convening of Peer Review Group in Meeting Room, Electrical Engineering Building
- 09.00 Tour of facilities of Department and Electrical Engineering Building. PRG escorted by Professor Yacamini and Dr. Marnane
- 09.45 Visit to Boole Library, meeting with Ms. Margot Conrick, Head of Information Services and Mr. Richard Bradfield, Subject Librarian
- 10.30 Tea/coffee (Meeting Room, Electrical Engineering Building)
- 11.00 Ms. Carmel Cotter, Finance Office
- 11.15 Time of consideration of issues by PRG
- 12.30 Professor Robert Yacamini, Head of Department
- 13.00 Mr. Michael O'Sullivan, Vice-President for Planning, Communications & Development
- 13.30 Working private lunch for members of the Peer Review Group
- 14.00 Preparation of first draft of final report
- 16.40 Professor Robert Yacamini, Head of Department
- 17.00 Exit presentation made to all staff of the Unit by Professor J Gardner, summarising the principal findings of the Peer Review Group (not for discussion at this time).

Venue: L3, Electrical Engineering Building

The presentation followed by a reception for staff and members of the PRG.

18.00 Externs depart