

## Department of Computer Science

### *Peer Review Group:*

Professor P. Fitzpatrick, Department of Mathematics, UCC (Chair)  
Professor M. Stynes, Department of Mathematics, UCC  
Professor G. Lyons, Department of Information Technology, NUI Galway  
Dr. P. Agrawal, Telecordia Technologies, New Jersey, USA

### *Brief description of conduct of site visit*

The site visit was conducted over 2.5 days from 13<sup>th</sup> to 15<sup>th</sup> March 2002 and included meetings with

- i) Head and staff of the department as a group and individually
- ii) Representatives of undergraduate and postgraduate students
- iii) Professor A. Hyland, Vice-President
- iv) Dr. R. Davies, Research Support Officer, Office of Vice-President for Research
- v) Professor P. Giller, Dean, Faculty of Science

and visits to departmental and library facilities in UCC.

An exit presentation of the principal findings of the Peer Review Group was made to staff of the department in the afternoon of the second day.

## Description of Department of Computer Science

*Head of Department:* Professor C. Sreenan

*No. of Staff:* 32 academic staff (23 permanent full-time, 3 contract full-time, 5 contract part-time), 7 technical support staff (permanent full-time) and 4 administrative staff (3 permanent full-time, 1 contract full-time)

*Location of Department:* Kane Building

*Degrees/Diplomas offered:* BSc, MSc, PhD, Diploma in Computer Science

*No. of students:* In 2000/02 the Department had 489.96 U/G FTEs and 226.42 P/G FTEs, distributed as follows:

Arts	Engineering	Science
55.62	28.42	632.35

Year 1	Year 2	Year 3	Year 4	Ev'g	JYA	Socrates	Total U/G	Diploma	M Sc Taught	M Sc Research	PhD	Total P/G
175.09	124.45	90.50	87.42	2.75	2.17	7.58	<b>489.96</b>	161.75	55.17	2.00	7.50	<b>226.42</b>

### *Mission Statement*

“ To extend the frontiers of knowledge in the theory, technology and application of computing and to assist in the exploitation of that knowledge for the benefit of Irish society by helping to foster the growth of a strong Irish industry.”

### *Aims & Objectives*

- Excellence in teaching and research

## General Comment on Quality Review

The self-assessment report contained much of the information required by the reviewers and any additional information, e.g. a copy of the departmental strategic plan, was made available to the reviewers immediately on request. The reviewers found that the Department has responded very well to requests for increases in undergraduate and postgraduate places, and has reoriented its undergraduate programme to include applied areas. Students (both undergraduate and postgraduate) are generally happy with their training and are supportive of the Department. Many academic staff provide class notes on the Web and this is greatly appreciated by students and the 3<sup>rd</sup>-year industrial placement is widely recognized as being a very positive contribution to the overall programme.

The reviewers found the physical facilities of the Department are extremely poor. The Department's staff and equipment are scattered over several locations from one end of the campus to the other. It was recognised that funding for a new IT building for the university was approved and plans are underway to proceed with the construction. The reviewers acknowledged that the department has the support of the university management and of the Dean of Science and that the technical systems support is excellent. The reviewers recognised that the exceptionally poor physical facilities of the Department may result in difficulties in attracting postgraduates, that are special to itself rather than those (such as employment opportunities) that apply to all Computer Science departments.

The reviewers acknowledged the success of the department in bringing in PRTL and SFI funding, but suggested that an overall research strategy is needed. The Department should be active in identifying and developing future directions in CS research. The group recommended that the new appointments, recently approved, should be targeted at selected areas. Clustering of research areas should be encouraged, and certain areas should be nurtured and grown. While the development of an AI research group is welcome, it should not dominate the Department to the detriment of other research areas.

### **Progress on Recommendations for Improvement**

One of the major issues that affects almost all aspects of the department's activities is the lack of the proposed IT Building. This has been identified as a major priority in UCC and substantial monies have been promised by external donors to contribute towards the cost of the building. The staff of the Department are based over eight different locations and this causes difficulties for management and communication among the staff of the department on an on-going basis.

<b>Recommendation of PRG</b>	<b>Recommendation of QPC</b>	<b>Follow-up Report – Oct. '03</b>
That the planned new IT building be provided as soon as possible	QPC endorsed recommendation. For action by UCC.	IT Building not yet provided. University is actively seeking to progress action and sourcing funding.
The committee structure should be re-examined with a view to possible organisation into a smaller number of larger committees with wider areas of responsibility.	QPC endorsed recommendation and welcome Department's proposal to review current arrangements.	Implemented.  3 committees have been disbanded, a further 2 have been merged and some additional members have been appointed to a couple of the core committees, e.g. the Teaching Committee.
Department should revise its Mission Statement, in particular to repair the omission of teaching and learning	QPC endorsed recommendation and welcomed response of Department in undertaking to amend the mission statement of the Department accordingly.	The Department has agreed and a revised mission statement is under preparation. It is planned to have the new mission statement in place by December 2003.

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The creation of a Deputy Head of Department post	QPC did not endorse this recommendation. If the Head of Department wishes to delegate responsibilities to staff within the department this should be done without going through a formal process.	The QPC had not endorsed this recommendation. However the Dean suggested a number of ways in which the objectives could be realised without additional staff or costs.
Training of backup personnel for key administrative tasks should be instituted	QPC endorsed recommendation.	Implemented and on-going.
UCC should carry out a comprehensive review of the administrative support available for the Department	The QPC referred this recommendation to the Department of HR for action.	<p>Since the review a departmental manager has been appointed and the layout of the departmental office considerably improved. All the administrative staff are now grouped in one area and this has improved the quality of service and the sharing of knowledge and experience among the administrative staff considerably.</p> <p>The Department of HR has been requested to carry out the review but to date has not done so.</p> <p><u>Action:</u> Director of QPU to follow-up with the Department of HR.</p>
The administrative workloads of academic staff should be balanced and transparent	QPC strongly endorsed the recommendation and welcomed action by the Department.	<p>Implemented.</p> <p>This year the administrative workload was advertised to all staff who were invited to indicate preferences for their administrative roles within the Department. Workloads were then allocated and full details of assignments were circulated to all staff.</p>
<p><u>4<sup>th</sup> year research projects</u></p> <ul style="list-style-type: none"> <li>• more evenly distributed among the academic staff</li> <li>• use guidelines from SNCDC for assessment of projects</li> <li>• more projects in areas the dept wishes to develop research</li> <li>• greater equity in level of difficulty of projects</li> </ul>	QPC strongly endorsed recommendations 8 and 9. The committee considered these recommendations to be very serious and very important. QPC wishes to see substantial improvement in these areas in the one-year follow-up review. QPC strongly endorsed the recommendation that the SNCDC guidelines on project assessment be used, and that equity in the level of difficulty of projects be achieved. QPC considered that it	<p>Implemented and on-going.</p> <p>The value of the 4<sup>th</sup> Year project has been reduced from 20 credits to 15 credits.</p> <p>A Projects Committee was set up to consider all the issues surrounding the management and assessment of the 4<sup>th</sup> Year projects. The marking scheme has been amended and complies with the SNCDC guidelines. Some flexibility in the precise</p>

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	is essential to have a core module element to the final year programme and wishes to see action on this recommendation as soon as possible.	marking scheme is allowed depending on the type of project. A full report is required from the examiners to provide details of the project and justification for the grade.
Decrease range of options in 4 <sup>th</sup> year, including designation of core modules taken by all students to maximise numbers and facilitate benchmarking of assessment.	See comment above.	The Department did reduce the number of options available. The project is core for all students. There is no support for core lecture modules in final year. However the Department is considering groupings of modules to enable students to specialise to some level in final year.
All examinations should be anonymously evaluated	QPC endorsed recommendation and noted that introduction of anonymous marking in all written examinations in the university is in line with the policy of the GB and the AC. It is planned to introduce anonymous marking of all written examinations in 2002/03 and support systems are being put in place to assist in this.	University will be implementing anonymous marking for all end-of-year written assessments in Summer 2004 examinations.
That the proposed introduction of a “greater variety of degree titles” does <u>not</u> proceed.	QPC endorsed recommendation.	<p>This is a point of confusion as the Department has not proposed nor does it support a greater range of degree titles.</p> <p>The Department is considering the introduction of streams within the BSc Computer Science which would concentrate on different aspects of the discipline. However students would be able to chose the combination of modules that would best suit their requirements. Typically this would be at 3<sup>rd</sup>/4<sup>th</sup> year levels.</p>
Each course or module that has associated laboratory hours should also have assigned by the Department an associated minimum schedule of visits by the academic staff involved in its delivery	QPC endorsed recommendation and noted that this is a matter of good academic practice.	<p>Implemented.</p> <p>Academic staff have complete responsibility for their course and related laboratories. This includes a minimum of visits to the laboratories during scheduled classes as necessary.</p>

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That teaching workloads be balanced across all staff in a transparent manner	QPC endorsed recommendation and noted that this is a matter of good practice.	Implemented.  Staff preferences are also taken into account in the assigning of teaching each year. All workloads are circulated to all staff once decided.
That an overall research strategy be developed by department, including: - identification and development of future directions in CS research; - the new appointments, recently approved, should be targeted at selected areas (such as systems and networks, databases, multimedia, parallel and distributed computing, and programming languages); - clustering of research areas should be encouraged.	QPC strongly endorsed recommendation and welcomed response of the department.	The Department has identified six areas of research that are the major foci of research. Clustering of research areas is encouraged through new appointments and also through the use of research funds. However there are other research areas pursued by staff.  To date the Department has not received any SFI research grant overheads. This is due to the shortage of available space in UCC to accommodate the additional staff. Thus most SFI projects and staff are accommodated in rented space and the overheads that should be allocated to the Department are being used to pay for this accommodation. In the medium-to-long term this could discourage staff from seeking SFI grants.
A programme of regular research seminars by and for postgraduate students should be developed. The Department should aim to become more visible within UCC, and nationally and internationally	QPC strongly endorsed recommendation. The seminars should be instituted immediately and advertised widely, both within and outwith the institution. The seminars should be aimed at postgraduates and others who are not necessarily experts in the particular topic covered in the seminar. Seminars should be organised on a monthly basis, at a minimum and be accessible to all who might wish to attend.	Implemented.  The programme is widely advertised within and outside UCC. All 2 <sup>nd</sup> and 3 <sup>rd</sup> year postgraduates are required to present a seminar during the year. Attendance at the seminars is obligatory for research students.
Income from targeted initiatives should be used to develop a programme for researchers to visit the Department and work there for relatively short periods of time	QPC endorsed recommendation and noted that the Dean of Science had assured the PRG that funds from skills initiatives programmes would be assigned to the department shortly.	The Department has received monies for the skills initiatives programmes. However these monies are fully utilised in providing staff and equipment for the courses.
Academic staff should take part in UCC training courses, and new staff should be particularly encouraged to attend those related to teaching.	QPC strongly endorsed recommendation. Many new initiatives in relation to development of teaching methodologies are being	Staff are attending and being encouraged to attend all training courses.

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	developed within the university. The input and participation of staff from the CS Department would be welcomed.	
CS staff should continue to be at the forefront of initiatives in web-based teaching and learning	QPC endorsed recommendation.	The Department supports this recommendation and is encouraging staff to be at the forefront in these initiatives.
A training budget should be available for the systems support staff.	QPC endorsed recommendation and welcomed action taken by the Department to put in place a training budget for systems support staff.	Implemented.
A UCC-wide Group for the systems support staff of all Departments should be set up. The formation of this group should be initiated by the CS staff.	The QPC welcomed the report from the Department that the CS systems support staff have initiated the creation of a UCC-wide forum for systems support staff.	Implemented.  The forum has been set up and is a means for sharing of ideas and expertise for systems administrators in a number of departments. This has also been of benefit to the whole University – for example, deployment of spam filtering software on a university-wide basis.
The induction of new staff, both academic and non-academic, should be undertaken, and must include a familiarisation with regulations and M&S	QPC noted that there currently exists an induction programme for new staff. The Head of Department should ensure that new staff attend the induction seminars. QPC recommended to the Department of HR that this induction programme be made mandatory for all new staff and that this should be written into the contract of employment for all new staff.	Implemented.  All new staff are advised to attend the Induction programme in September.
Academic staff should become more involved in UCC academic life by taking part in university committees and sharing the administrative and other burdens.	QPC endorsed recommendation. QPC commented that there is a broad spectrum of university activities, not just Science Faculty committees and the involvement of CS staff would be welcomed.	Implemented.  Members of academic staff are involved in Academic Council and Faculty Committees. Staff are actively encouraged to participate in these activities.
A certain amount of money be allocated on a competitive basis from the Department budget for travel	QPC endorsed recommendation.	Given the current budgetary restraints it is unlikely it will be possible to implement this for 2003/04.
The Department should actively pursue research collaborations	The QPC accepted the departmental response that the	The Department has received funding from various sources and

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external to itself, particularly with industry	<p>“Department has extremely strong links with industry through our Work Placement programme – there are over 100 companies that actively participate in this programme, and our academic staff visit all the placed students and their managers in these companies each summer. We deeply value industry interaction, and recognise that a greater level of research-related industry interaction is desirable. In line with our overall plans to increase research activity we expect the number of research links with industry to also increase.” QPC looks forward to seeing an increase in research activities in this area in the follow-up review in one year.</p>	<p>staff are actively collaborating with other universities and industry. A list of a sample of collaborations is attached for information.</p> <p>The Department has been very active in hosting and organising international conferences, some of which have been sponsored by industry. The Department will continue to seek active collaborations where possible and when opportunities arise.</p>
The Department should consider acquiring IEI accreditation	QPC recommended that discussions take place with the Registrar of the IEL.	<p>Some informal discussions have taken place and the Department has undertaken to continue these in the coming academic year.</p> <p>Should the Department pursue the issue of IEI (or another professional body) accreditation there would almost certainly be significant resource issues for the University. Accreditation is not required by graduates to work as computer scientists, unlike the situation for engineers.</p> <p>The issue of Bologna and changes to curricula as a result of decisions yet to be made also need to be considered.</p>
The Department should be provided with a LAN that is a bridge off the campus LAN and over which it has control	QPC endorsed recommendation. Department should propose what action is necessary to the appropriate body in UCC.	Discussions have taken place with the staff of the Computer Centre and some improvements have been made. Should the IT Building be provided there would be a need for a re-consideration of current policies. Future discussions will focus on policies and, if agreed, their implementation.
The time periods during which staff and students have access to laboratories should be extended.	QPC requested specific proposals from the department in relation to this recommendation, noting that access to computer laboratories is already available outside normal	All Department of CS laboratories are open from 9 am – 10 pm every day. The Department would be happy to provide 24 hour access but this is outside

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	working hours.	departmental control.
Department should ensure the most appropriate journals are acquired by the Library, and that the monies available for books are used to the fullest extent.	QPC endorsed recommendation.	<p>Implemented.</p> <p>The Department regularly reviews the journals acquired (typically every 18 months). All of the monies available for books are spent in the relevant academic year.</p>
Departments should be told their finance allocation by the beginning of each academic year.	This has now been implemented by UCC	Implemented.
Improved quality of maintenance of common areas and quicker response to requests for maintenance from the Buildings Office and the Computer Centre are desirable.	For action by the Buildings Office and the Computer Centre.	<p>In relation to the Buildings Office some difficulties continue to arise. There are examples where monies were provided by the Department of CS for works to be done and long delays with a lack of co-ordination and communication evident. A variable quality of response to maintenance requests is observable.</p> <p>The Computer Centre are working with the Department continuously to improve the facilities available in some of the buildings in which staff are accommodated.</p>