

DEPARTMENT OF BIOCHEMISTRY

PEER REVIEW GROUP

- Professor J. Glennon, Department of Chemistry, UCC (Chair)
- Professor T. Cross, Department of Zoology, Ecology & Plant Science, UCC
- Professor D. Croke, Department of Biochemistry, Royal College of Surgeons, Dublin
- Professor J. Coggins, Dean of Faculty of Biomedical & Life Sciences, University of Glasgow, Scotland

SITE VISIT

The site visit was conducted over 2.5 days from 14-16 March 2005 and included visits to departmental facilities in UCC and meetings with the following:

- Head and staff of the department as a group and individually
- Representatives of undergraduate and postgraduate students
- Representatives of researchers
- Representatives of employers, past graduates and other external stakeholders
- Professor Áine Hyland, Vice-President
- Mr Michael O'Sullivan, Vice-President for Planning, Communications & Development via conference call
- Professor Fergus Shanahan, Director, BioSciences Institute
- Professor Paul Giller, Dean, Faculty of Science
- Ms. Carmel Cotter, Finance Office
- Ms Marita Foster, International Education Office
- Ms Una Ní Chonghaile, Science Librarian

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

Note: Data given is for the academic year 2004/05

Head of Department:	Professor Tommie McCarthy
Staff:	11.5 academic staff (1 Professor, 2 Associate Professors, 1 part time Associate Professor, 6 Senior Lecturers, 1 College Lecturer, 1 temporary Lecturer), 7 technicians, 1 Senior Executive Assistant, 2 Executive Assistant, 1 Technical Assistant, 1 Technical Operative and 1 Lab Aide
Staff Academic FTE:	15.3 (12.0 FTE academic staff; 3.3 FTE part-time budget)
Student/Staff FTE Ratio:	22.3
Location of Department:	Lee Maltings, BioSciences Institute
Degrees/Diplomas offered:	BSc, MB, BDS, BPharm, Applied Sc, MSc, PhD

NUMBER OF STUDENTS

The Department has 341.5 Student FTEs distributed as follows:

Undergraduate Student FTEs

Year 1	Year 2	Year 3	Year 4	Total U/G	Economic	Visiting American	Visiting European
92.9	61.0	61.0	45.7	293.2	45.4	0.6	1.3

Postgraduate Student FTEs

HDip	Master Taught	Master Research	PhD	Total P/G
0.3	18.5	15.5	14.0	48.3

MISSION STATEMENT

“To serve the people of the community, the province and the nation through the provision of the highest standards of education and training in the broad biochemistry area; and to pursue biochemical research that will further the scientific knowledge of mankind and lead to improvements in human and animal health and welfare.”

AIMS OF DEPARTMENT

- Conduct our work and business with the highest standards of professional ethics and integrity.
- Commitment to excellence in teaching and training through continuous development and improvement of educational and training programmes
- Commitment to excellence in research through discovery, innovation and creative thinking
- Provision of leadership in the broad biochemistry area within the University and for the people of the community, the province and the nation
- Provision of a safe, challenging and stimulating work environment.
- Promotion of professional and personal growth through education, training and development.
- Treatment of our students and staff with utmost respect and dignity.
- Operate under policies that are fair and equal to all.

GENERAL COMMENT ON QUALITY REVIEW

The reviewers were impressed by the documents presented by the Department, complimenting, in particular, the Self-Assessment Report (SAR) and would like to thank the members of the department for their efforts both in preparation for and during the review. The documentation presented was very comprehensive, thoroughly prepared and included a detailed SWOT analysis and benchmarking statement.

It was immediately obvious that the Department has an excellent research ethos and is particularly strong in its publication record. Everything the PRG found and observed was consistent with the maintenance of international world-class research by the department as per

the Forfás report on research in Ireland in areas of Biotechnology and Information and Communication Technologies¹.

The reviewers were of the opinion that the research of this department is top class with a ranking in the international scale. The reviewers were of the opinion that the Department, if ranked in the UK RAE system, would merit a 5/5* ranking. This excellence has been achieved under difficult circumstances in some cases with relatively poor infrastructure and inadequate laboratory facilities. A significant amount of the activities of the Department is conducted in poor quality space (laboratories and offices).

The reviewers were very impressed with the postdoctoral researchers, considering them to be internationally competitive and very dedicated/committed. The PRG were also impressed with the enthusiasm and quality of both the biochemistry undergraduate and post-graduate students. The standards maintained in teaching, including practical teaching, of science undergraduates were very high. The teaching was generally highly rated by the undergraduates with just a few minor criticisms with respect to organisation. The organization of the undergraduate laboratories was outstanding.

SWOT Analysis: The PRG broadly agreed with the SWOT analysis presented by the Department in the SAR.

Strengths: The PRG were of the opinion that the key strengths are that the Department is a world-class research Department as evidenced by the high level of grant support, the excellent record of publication in leading international journals and the Technopolis Report (2003); the quality of teaching in science is very high and the students, especially the biochemistry students, are enthusiastic about all aspects of teaching; student demand for the wide range of courses offered by the Biochemistry Department is very high; The staff are dedicated, hardworking and efficient; the Department continually strives for excellence in research and teaching.

Weaknesses: The recent lack of unity and cohesion which has arisen from the physical two-site-location and the lack of sufficient high quality research space to accommodate all the research groups in the Department; The poor and limited teaching space due to the increasing pressure of high and ever increasing student numbers; Insufficient collegiality among the active and highly focussed researchers who need to offer more direct support to the Head of Department by undertaking a greater share of the administrative load and assisting him in developing a coherent strategic plan for the Department, and presenting this with clarity to Faculty and University Management. This was particularly true of some of the staff located within the BSI; The staff student ratio is very high leading, in many cases, to excessive individual workloads. The willingness of the Department staff to extend themselves, while laudable, and effective up to now, is not sustainable and thus does not constitute a long-term strength.

The reviewers were of the opinion that the Department should identify high profile and emerging areas of Biochemistry where future academic appointments and infrastructure investment would be desirable so that UCC Biochemistry can retain its position at the forefront of Irish national programmes in the biomedical and biomolecular sciences.

Benchmarking: The PRG commended the Department for the benchmarking exercise, which was both comprehensive and thorough. The PRG considered that comparable local, national and international examples of institutions were well chosen.

¹ *Baseline Assessment of the Public Research System in Ireland in the areas of Biotechnology and Information and Communication Technologies* conducted by Technopolis on behalf of Forfás and published in 2003.

Teaching & Learning: The Department teaches a wide portfolio of courses extending from specialist courses for honours biochemists to service courses for first and second year science students and medical, dental and health science students. The teaching given to science students is extremely well received and the enthusiasm of the third and fourth year students of biochemistry for their course was especially noteworthy. It emerged that the science teaching is considered by the students to be highly relevant and that the vast majority of the lectures and practical teaching are delivered to a very high standard. Although the teaching laboratory accommodation is rather old fashioned it was very clear that the practical teaching is given a very high priority by the Department and that the Undergraduate Laboratory Coordinator and the technicians ensure that the laboratory classes are run with great efficiency.

The staff student ratio in the Department is very high especially for a Department that has a heavy practical teaching load. It was therefore very encouraging to learn that the Department manages to deliver a challenging and wide ranging portfolio of final year projects even though each staff member has to supervise 4 or 5 projects each. The PRG received very positive comments from the Final Year students on their experience with their projects.

Research: The Department's reputation for internationally competitive research of the highest quality is borne out by what was seen by the PRG. The academic staff, postdoctoral fellows and graduate students in the Department are to be complimented for their sustained and significant efforts. The PRG feels that the university should more clearly recognise the value of the Department's research, its contribution to the University's scholarly reputation and, through research funds gained, to the University's infrastructure. The PRG recognises the difficulties for research posed by the unfavourable staff:student ratio; it recommends that, while planning for additional appointments on tenure track, the Department should develop a strategy for developing and enhancing its research capabilities and UCC collaborations through the appointment of additional SFI investigators.

PROGRESS MADE ON THE IMPLEMENTATION OF PRG RECOMMENDATIONS

A meeting to discuss progress made in implementing recommendations for improvement arising from the review of the Department of Biochemistry was held on 1 November 2006.

The Department has developed a strategic plan for the period 2006-2011, mirroring the period of the University Strategic Plan. The Departmental Plan addresses all issues relating to teaching, research and the programmes and curricula offered by the Department and the administrative issues facing the Department. Discussion at the follow-up review meeting focussed on the Strategic Plan and the activities identified in the Plan as a focus for the Department for the next five years. A major issue identified for the Department was the retention of the academic staff in UCC, as well as the Degree programmes offered.

Present: Professor Patrick Fitzpatrick, Head, College of Science, Engineering and Food Science
Professor Michael Murphy, Head, College of Medicine and Health
Professor Tommie McCarthy, Head, Department of Biochemistry
Dr. Norma Ryan, Director, Quality Promotion Unit
Mr. Gerard Horgan, Executive Assistant, Quality Promotion Unit

Abbreviations

PRG: Peer Review Group

QPC: Quality Promotion Committee

HR: Human Resources

CSET: Centre for Science, Engineering & Technology

RAM: Resource Allocation Model

VP: Vice-President

QIP: Quality Improvement Plan

SFI: Science Foundation Ireland

IR: Industrial Relations

AC: Academic Council

Recommendation of PRG	Recommendation of QPC	Follow-up Report November 06
<p>The Department should develop a strategic plan for the next five to ten years.</p>	<p>Recommendation strongly endorsed.</p>	<p>Implemented Strategic plan 2006-2011 will be finalised by end of November, 2006.</p>
<p>The split site and the uncertainties on how this can be resolved should be addressed urgently by both the Department and University Management.</p>	<p>Recommendation supported in principle. The QPC noted that this will take resources – both space and money. The QPC suggested that the Department engage with the university in discussions to explore how this recommendation might be implemented. For example, possibilities for funding from SFI or other external sources might be investigated.</p>	<p>Not implemented. Ongoing. Head of Department referred to Departmental Strategic Plan 2006-2011, which advocates the reunification of Department on Western Campus. Staff in the Department want to be under one system, with a clear management structure and more efficient use of resources.</p>
<p>Changes in management structure and leadership style would overcome some of the weaknesses identified by PRG.</p>	<p>Recommendation endorsed. The QPC recognised and acknowledged the great strengths of the Department. However the University is aware that there should be more coordination and internal collaboration within the Department to allow the emergence of a major research field (e.g. CSET). The QPC recommends that this becomes a top priority for the Department and would encourage the Department to engage with relevant offices in UCC to further this end.</p>	<p>Ongoing. The Department has made some changes to the management structure within the Department. However the location of the staff and facilities of the Department over a number of sites in UCC makes it difficult to further the coordination and internal collaboration in the Department beyond the extent to which these occur already.</p>
<p>Appointment of a new member of staff with a specific role for the co-ordination and management of teaching.</p>	<p>Recommendation has been implemented. Approval has been granted for a 0.75 appointment for 3 years. The QPC expressed concern at the reference to teaching and reiterated the view of the University that all academic staff must engage in teaching and research. Students come to UCC to learn from the best researchers and it is important that they are exposed to such.</p>	<p>Implemented. An appointment has been made.</p>

Recommendation of PRG	Recommendation of QPC	Follow-up Report November 06
Appointment of a Departmental Manger.	<p>Recommendation supported.</p> <p>However the QPC was very concerned at the reference to 'teaching activity' by the departmental manager, and expressed the view that it would not be appropriate for an administrator to deliver teaching.</p> <p>The QPC also suggested that perhaps the Department would look to its research income to support the appointment of a departmental manager, if resources are not available within the University budget.</p>	Not implemented.
Hiring new technical and support staff to underpin research and especially research infrastructure.	<p>Recommendation endorsed.</p> <p>The QPC suggested that money from competitive research grants, which the Department is recognised at being very successful at getting, should be used to support new technical staff and to support the research infrastructure.</p>	<p>Ongoing</p> <p>The Department is examining this issue.</p>
The long-awaited review of the technical career structure in the university should be finalised.	<p>Recommendation endorsed.</p> <p>The QPC noted that the review is close to being finalised and is at the IR stage.</p>	Ongoing – not yet implemented.
The PRG supports the Department's recommendation that the existing RAM should be based on a transparent model.	<p>Recommendation endorsed.</p> <p>The QPC noted that it is the intention of the University that the RAM, which is being developed at the present, will be sent to faculties and AC for discussion and consideration in the autumn and that it will be a transparent system.</p>	<p>Implemented.</p> <p>The RAM has been introduced in UCC from October 2006. The implications of the Model are now being considered and reflected upon.</p>

Recommendation of PRG	Recommendation of QPC	Follow-up Report November 06
<p>The Department must consider how it can improve its effective representation on university committees so that its needs are properly communicated to the Faculties, BSI and University Management to ensure that the above issues are properly addressed.</p>	<p>Recommendation strongly endorsed.</p>	<p>Implemented. Staff of the Department are represented on University committees.</p>