

## **Department of Food & Nutritional Sciences**

(At the time of the review known as the Department of Food Science, Food Technology & Nutrition)

### *Peer Review Group:*

Professor R. Yacamini, Dean of Faculty of Engineering, UCC, Chair  
Professor T. McCarthy, Department of Biochemistry, UCC  
Professor B. McKenna, Department of Food Science, UCD  
Professor D. Ledward, School of Food Biosciences, University of Reading, UK  
Professor J. Mathers, Human Nutrition Research Centre, University of Newcastle, UK

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

The site visit was conducted over 2.5 days from 4<sup>th</sup> to 6<sup>th</sup> November 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) Representatives of employers and past graduates
- iv) Professor A. Moran, Registrar & VP for Academic Affairs
- v) Professor J. K. Collins, VP for Research Policy & Support

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 Food & Nutritional Sciences**

*Head of Department & Dean of Faculty of Food Science & Technology:* Professor C. Daly  
*No. of Staff:* 17 academic staff, 35 research scientists (contract), 11 technical & support staff and 3

administrative staff

*Location of Department:* Food Science & Technology Building

*Degrees/Diplomas offered:* BSc (Food Science) (Food Technology) (Nutritional Sciences), HDip programmes, MSc, PhD

*No. of students:* in 2001/02 the Department had 328 undergraduate students and 93 currently registered postgraduate students

### *Mission Statement*

“The educational mission of the *Department of Food Science, Food Technology & Nutrition* is:

- to provide undergraduate and postgraduate education in Food Science and Technology and Nutritional Sciences to the highest standards of excellence;
- to support the social and economic development of Ireland and the EU by conducting food related research of international quality
- to ensure that programmes of education and research are relevant to regional, national and European needs.”

### *Aims & Objectives*

- to provide high quality graduates for the food and healthcare industries, educational and research institutions and public service agencies;
- to carry out fundamental and applied research which combines international excellence with relevance to regional, national and European needs.
- develop excellence and critical mass in key research areas relevant to the social and economic needs of Ireland and the EU
- to provide high quality postgraduate and postdoctoral research training
- to support innovation in the food industry and consumer health protection
- to engage in the transfer of new knowledge to end users, including industry, regulatory authorities and policy makers

### **General Comment on Quality Review**

The review panel reviewed and considered the self-assessment quality improvement / quality assurance report of the DFNS. The panel wished to acknowledge that the report was extensive, thorough, detailed and comprehensive. The panel met with various staff and students from the Department and were impressed by the high level of engagement of the staff and students in the self-assessment process and by their commitment to the process.

**Strengths:** The review panel agreed with the Department's strengths as outlined in the self-assessment report. The panel was particularly impressed with the following strengths:

- a. The quality and commitment of the staff at the academic, technical and administrative and support levels.
- b. The strong commitment of the staff to the high quality education of their students, to student needs and to enhancing the quality of the student experience.
- c. The strong links between staff and industry and the high respect commanded by the staff among colleagues in industry.
- d. The track record, ability and excellent reputation of the staff in fundamental and applied research and in generating funding for research.
- e. The high regard held outside UCC for graduates and postgraduates that have been educated and trained in the Department.
- f. The extensive collaborative research connections and networks.
- g. The vision and proactive nature of strategic planning in the Department that has brought the Department to its current status as a premier Department in the sector at the international level.
- h. The high status of the Department as a major player in education, teaching and research in the agri-food area at the national and international level and the central role it plays in academic-industrial interactions at the research and training level.

**Weaknesses, Opportunities, Threats:** The review panel considered the weaknesses, opportunities and threats of the SWOT analysis. Weaknesses, opportunities, and threats identified in the report were in line with the findings of the review committee. The review panel acknowledges that the Department is very young and was only established in 1998 through the amalgamation of four of the then seven primary Departments within the Faculty of Food Science and Technology. Advancement and harmonisation of the integrated department is slowly progressing. The new degree programme in Food Science and Technology is now in place and will contribute substantially towards further harmonisation.

Overall, the Department compares very well with top ranked international departments in the area in the UK, mainland Europe and the USA.

### **Progress on Implementation of Recommendations for Improvement**

#### Abbreviations

*PRG: Peer Review Group*

*QPC: Quality Promotion Committee*

*HR: Human Resources*

*EMG: Executive Management Group*

*QPU: Quality Promotion Unit*

*IEO: International Education Office*

*AC: Academic Council*

*SEDC: Staff Enhancement & Development Committee*

*VP: Vice-President*

*ToT: Training of Trainers*

*FNS: Department of Food & Nutritional Sciences*

*SNCDC: Student Needs & Curriculum*

*Development Committee*

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<b>Recommendation of PRG</b>	<b>Recommendation of the QPC</b>	<b>Follow-Up Report October 2004</b>
That the University should continue to highlight and promote Food education, research and research training as one of its key strengths.	Endorsed	In any consideration of reorganisation of University's Faculties, the University should continue to highlight and promote Food education, research and research training as one of its key strengths. Loss of visibility of 'Food' at UCC could adversely affect our reputation in this strategic area.
UCC should maximise resources available for student recruitment by targeting science-based students nationally and by a structured programme to attract overseas, economic fee-paying students.	Endorsed. The QPC requested that the department consider a strategy by which this could be achieved, in discussion with the Head of the Student Careers Service, the Head of the International Education Office and the Dean of Science.	A group has been established within the department and is interacting with College. A dedicated Liaison and Support Officer has been appointed (from independent funding source). A promotional video is almost complete and will be used in school visits and all other promotional activities, as well as in overseas recruitment.
That academic staff should be encouraged to undertake sabbatical leave to support their teaching, learning and research activities.	The QPC noted that new guidelines for facilitating sabbatical leave have been drafted by the SEDC and will be on the agenda of the next AC for approval.	On-going. Staff are also being actively encouraged to participate in development programmes offered in UCC.
UCC should consider the development of a career structure for long-term research staff.	QPC referred this recommendation to the VP for Research Policy & Support for consideration and development of a strategy for	This was also referred to the VP for Research. Within the department the issue remains on the agenda.

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	implementation.	
UCC should place increased emphasis on staff development needs of technical and administrative staff.	The QPC noted that some of these issues are in the process of being identified by means of discussions facilitated by the QPU and funded under the ToT programme. HR has conducted a training needs analysis and is working to develop appropriate staff development programmes based on the expressed needs of staff. Staff of the Department of FNS should be encouraged to participate and make their preferences/suggestions known to the Department of HR. QPC recommended that the department should be proactive in encouraging technical and administrative staff to participate in training offered and in discussions on future needs.	The department is doing everything possible to ensure that staff avail of the training and development opportunities available.
That the department places emphasis on the training needs of technical and administrative staff and on the development of clearly identified roles and job descriptions for the staff.	Welcomed approach of department.  Would encourage the development of identified roles and job descriptions	Implemented.  Job descriptions and roles have been discussed with administrative staff.
PRG recommended that the UCC Library should be well-resourced but did not comment on the specific level. Recommended that a proportion of overheads from research grants be used for library resources.	Endorsed recommendation of PRG. Deans-EMG have agreed that a percentage of the University core share of overheads on research grants will be devoted to research-related materials. QPC recommended that the department should supplement the contribution from UCC from the department's own research overheads.	Resourcing of the Library has greatly increased, particularly with the advent of targeted monies from the SFI and PRTL. Plans are in hand for the building of a large extension to the Library, specifically geared towards the needs of postgraduates. A proportion of the overheads from research grants are now being assigned to departments and thus there is more discretion at the departmental level as to what they may be spent on.

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<p>Recommended that the post of Professor of Nutrition should be filled while recognising that the timing of this will be influenced by many factors.</p>	<p>QPC recommended that the issue be referred for consideration by Deans-EMG. It was suggested that perhaps the department should consider the seeking of funding for the Chair from external sources.</p>	<p>The post has not been filled to date because of financial restrictions.</p>
<p>Recommended that UCC should support the department in increasing its undergraduate and postgraduate student numbers through introduction of new degree programmes.</p>	<p>It was noted that the BSc in Public Health and Promotion has been approved by Academic Board.</p> <p>QPC would welcome all efforts of the department to bring forward new programmes, especially postgraduate programmes.</p>	<p>This is on-going. For example, the Department will likely have a cohort of 20-25 Chinese (fee-paying) students entering the 3<sup>rd</sup> and 4<sup>th</sup> year of the BSc Food Science &amp; Technology on an annual basis (starting Oct 2006). Various new postgraduate degree programmes are being discussed at present with a view to submission for AB approval within the next 12 months.</p> <p>In addition, the department is participating in a number of interdisciplinary programmes (BSc Nursing, BSc Public Health Promotion) and is actively engaged in discussions concerning other new initiatives.</p>
<p>The University should review as a matter of priority its policy of weighting research postgraduates at 1 FTE. The review panel suggests that this might be achieved by giving the department more resource credit for its high research income.</p>	<p>QPC did not endorse the recommendation to review the policy of the FTE weighting of postgraduates. QPC recommended that the University should consider new systems that could be put in place to recognise success in attraction of postgraduates and endorsed the request by the department.</p>	<p>This was referred to Deans-EMG. In the light of the on-going discussions on the organisation of academic structures this issue will be considered following decisions.</p>
<p>The University should establish a scheme for seed funding for new academic appointees. The review panel suggests that the department should consider augmenting such funding through overheads received</p>	<p>QPC endorsed recommendation of the PRG that the department should consider augmenting such funding through overheads received from grant research income.</p>	<p>The department is still exploring options and has not yet taken any definitive action. However, the department has not had any new academic appointments since the Quality Review and thus this has not</p>

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from grant research income.		impeded career development.
UCC should examine issues surrounding high failure rates in 1 <sup>st</sup> year courses provided by departments (other than FNS)	<p>QPC considered this a matter of serious concern. It was noted that efforts are already being made by Science Faculty to discuss teaching approaches and methodologies that might be used to improve, assisted by funding received from the HEA under the Targetted Initiatives and ToT programmes to support teaching and learning initiatives in UCC.</p> <p>QPC suggested that the Department of FNS should put in place a mentoring scheme for First Years who will be taking programmes offered by the department.</p>	<p>Discussions took place with all departments involved in First Year teaching. All have cooperated in improving various aspects of the student experience, including timetables.</p> <p>An induction programme has been implemented.</p> <p>A student mentoring scheme has been introduced and is working well.</p> <p>Liaison with other departments is on-going and issues needing attention are dealt with in a timely manner.</p> <p>Blackboard.com is used to assist and discuss issues with students.</p>
The University should address the continuing need to upgrade undergraduate teaching laboratories and the Food Processing Hall.	QPC noted the views of the PRG on the state of the teaching laboratories and facilities and asked that the Department of FNS review the balance of its own expenditure between teaching and research. The department should bring forward proposals as to what is needed and suggestions as to funding of the proposals.	<p>The department is undertaking a detailed review of income and costs. Additional resources are needed to refurbish the Food Processing Hall. The department are considering proposals to bring forward to the University in support of the upgrading and refurbishment projects.</p> <p>At present, funding has been assured from the Department of Agriculture and Food to refurbish and upgrade Dairy Processing Areas in the Food Processing Hall. Additional funding for upgrading and refurbishment projects from the UCC/Food Industry Partnership Board.</p>
UCC should urgently address IT facilities available to the department's undergraduate and postgraduate students.	QPC endorsed recommendation and welcomed suggestion of the department that proposals will be brought forward. The	The Department has brought this issue to the Faculty Policy Committee and the Dean wrote to the buildings committee in relation to the possible use of

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	QPC would welcome a creative proposal to address the difficulties.	the computer room on the 4 <sup>th</sup> floor of the food science building. We have not had feedback from the buildings committee on this matter.
That the department review the management and committee structures with a view to identifying further methods of improvement of management of the department. This was considered to be urgent and to be essential for harmonisation of the integration of the department and the development of a working management and committee structure.	QPC strongly endorsed recommendation. QPC was concerned that better integration of all departmental activities be achieved as soon as possible.	A Head of Department was appointed. A central departmental office has been established with administrative staff located in this co-joining suite of offices on the second floor of the Food Science Building. All administration functions are now centralised. The management and committee structures put in place are now working effectively.
Department should further improve communication with its students. PRG recommends that a central office for all student contact should be established.	QPC strongly endorsed recommendation.	<u>Implemented.</u> All administrative support in the department is now located in a co-joining suite of offices on the second floor of the Food Science Building
The department should undertake regular formal evaluations of workloads of all staff.	QPC endorsed recommendation. This issue is currently under consideration by the VP for Academic Affairs, the VP for HR and has also been raised at discussion groups organised by the QPU.	Implemented.
The issue of departmental costs needs to be addressed by the department by strategic planning of (i) student recruitment and enrolment into existing Programmes and any newly proposed educational initiatives (e.g., taught MSc programmes) and (ii) any future staffing decisions within the department. The review panel recommends that research income generation should be taken into account when	QPC recommended that appropriate mechanisms, with proper comparisons and databases to facilitate credit for all activities of a department, be put in place. In the opinion of the QPC the department are very generously funded already.	Departments are already credited with the benefits of research income generation, and receive a share of the overhead associated with research grants. This situation is continuously improving.

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reviewing departmental costs and that UCC develop an appropriate mechanism to credit research income generation to departments.		
The department should identify opportunities to provide additional sources of income.	QPC endorsed recommendation and welcomed development of plans for implementation by the department.	On-going. For example, the Department will likely have a cohort of 20-25 Chinese (fee-paying) students entering the 3 <sup>rd</sup> and 4 <sup>th</sup> year of the BSc Food Science & Technology on an annual basis (starting Oct 2006).
The panel recommends that learning outcomes should be established for each module and course curriculum and measured as to achievement.	QPC strongly endorsed recommendation and welcome proposed action by department.  Furthermore the QPC confirmed it would like to see this happen for all modules in the Book of Modules.	Action on this has been initiated. Module coordinators have been asked to write outcomes for each module by the end of the academic year 2004/05.
The department should review its approach to student assessment, and in particular, explore the possibility of re-introducing Continuous Assessment methods, where appropriate.	QPC strongly endorsed recommendation and welcome proposed action by department. QPC requested that the department report back to the QPC on decisions/actions by department.	The department has reviewed its assessment methodologies and has revised the assessment methods in some modules and introduced new forms of assessment in others. These will be monitored on an on-going basis.
The review panel endorsed the recommendation that the department should continuously review and evaluate the curricula of its BSc Programmes, with a view to maintaining and improving their high quality and recommends that the department should give priority to a review of the second year of its new programme and the review of the Nutritional Sciences degree. The panel recommends that all members of department should be involved in both reviews and	QPC endorsed recommendation and recommended that students be invited to participate in the consultations and discussions regarding course changes.	The 4 <sup>th</sup> year of the BSc Food Science & Technology programme is currently under review. It is anticipated that the review will be completed by January 05 and then decisions as to appropriate actions will be taken. The 3 <sup>rd</sup> and 4 <sup>th</sup> year of the BSc Nutritional Sciences have been reviewed and changes implemented.  The curricula of the BSc Programmes are under constant review and evaluation.



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that the final year project should also be reviewed.		
New initiatives to maintain and improve student enrolment into the BSc Programmes need to be maintained, and, if possible, expanded.	QPC endorsed recommendation. QPC suggested that the department consider appointing their own recruitment officer and also liaising with the Faculty of Science in relation to student recruitment.	The department through a submission to the Faculty, has been successful in securing independent monies to employ a Liaison and Support Officer for the Faculty of Food Science & Technology. This person will be in place within 4 weeks. The role includes initiatives for student recruitment and student retention. The Department staff will actively engage with this officer.
The department should explore possible teaching and learning links with national (in particular, CIT) and international partners.	QPC strongly endorsed recommendation. QPC requested that department bring forward specific proposals for implementation of this recommendation in their implementation plan within 3 months.	The department is considering possibilities of links with food-related programmes in CIT. However the first priority is to ensure the success of the BSc Food Science & Technology. Links between Agri-Food/Health parties (nationally and internationally) are progressing. The possibility of developing multi-institutional postgraduate programmes are being actively investigated. The Department are partners in a proposal for an European MSc in Food Studies, offered by a number of European Universities and Institutes.
The department should prepare a strategic plan for its space needs to ensure that adequate space is available to take account of the changing profile of departmental research, the expansion of research in new areas and the development of extension/innovation services. The PRG also recommends that UCC supports this recommendation by continued acknowledgement of the department as one of its premier departments and by continued	The QPC strongly endorsed the recommendation re the strategic plan and recommended that the justification for the space needs be included.	A space plan was generated and the department has undergone a number of space audits. The space plan has been implemented.  Some of the space issues have been resolved.

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acknowledgement of research in the agri-food sector as one of its key priority areas.		
In order to maintain and further improve research quality the department should support the research strengths of individual staff by assisting, where appropriate, the development of critical mass through interdisciplinary research and internal and external collaboration	<p>QPC strongly endorsed the recommendations of the PRG</p> <p>QPC welcomed the development of multidisciplinary approaches to research and applauded the willingness and track record of the staff of the department to develop and participate in such programmes.</p> <p>The QPC recognised the very significant achievement so the staff in developing their research strengths and noted the recognition these achievements have received.</p>	The department is involved in two of the EU Framework 6 Networks of Excellence, which are the cornerstone of development of critical mass of researchers in a particular area within the ERA. In addition, the department have staff associated with the two interdisciplinary research institutes (BSI and ERI) as well as the APC.
The department should seek to diversify sources of funding for research and to maximise interdisciplinary collaboration as a means to develop strands of research that can potentially be funded from other sources.	<p>QPC strongly endorsed the recommendations of the PRG</p> <p>QPC welcomed the development of multidisciplinary approaches to research and applauded the willingness and track record of the staff of the department to develop and participate in such programmes.</p> <p>The QPC recognised the very significant achievement so the staff in developing their research strengths and noted the recognition these achievements have received.</p>	<p>The department is seeking to diversify its research funding sources to widen the funding base on an ongoing basis.</p> <p>The department is involved in two of the EU Framework 6 Networks of Excellence and two Integrated Projects as well as receiving grants from HEA North-South Strand 1 initiative and SFI.</p>
The department should work with other departments in the Faculty, the National Food Biotechnology Centre, the Biosciences Institute, and the Research Support Office in adopting a strategic approach to seeking funding of research undertaken by individual researchers as well as for	<p>QPC strongly endorsed the recommendations of the PRG</p> <p>QPC welcomed the development of multidisciplinary approaches to research and applauded the willingness and track record of the staff of the department to develop and participate in</p>	The department is working actively with other departments and interested groups within and outside the University. This is an on-going activity.

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research programmes that require large scale funding.	<p>such programmes.</p> <p>The QPC recognised the very significant achievement so the staff in developing their research strengths and noted the recognition these achievements have received.</p>	
<p>The department has a very large number of postgraduates in relation to staff numbers. The department should review the balance between its undergraduate commitment and resource allocation, its postgraduate commitment and resource allocation and the mission of the department to ensure that increases in output and the overall quality of the department's output are maintained.</p>	<p>QPC endorsed recommendation.</p> <p>The QPC were of the opinion that emphasis needs to be placed on the mentoring and on the core of undergraduate students in the department. Student retention is a major issue for the department. Research scientists should be encouraged to become involved in the mentoring and perhaps in some aspects of the delivery of the undergraduate programmes.</p>	<p>The introduction of new postgraduate courses, e.g. in relevant food-related areas are currently being debated. Due consideration is being given to Bologna and developments nationally in the agri-foods area. The department hopes to introduce some new programmes in 05/06.</p>
<p>The department should closely monitor completion times for postgraduate students. The review panel recommends that the department develop a more structured approach to the area of postgraduate training and include additional skills training to that already being carried out including experimental design, good laboratory practice, intellectual property, research ethics and innovation in research methods and approaches.</p>	<p>QPC endorsed recommendation.</p> <p>The QPC applauded the efforts of the department in developing a structured approach to postgraduate training. The QPC suggested that the department should consider making these courses available across UCC. The QPC referred the department to a web site <a href="http://www.idotdesign.com/stars/">http://www.idotdesign.com/stars/</a> developed by 2 staff of the department of Zoology, Ecology &amp; Plant Science with the aid of a grant received as part of the Research into Innovative Forms of Teaching scheme in UCC.</p>	<p>The department has a Graduate Studies Committee which has responsibility for monitoring all completion rates. The department has developed the STEPs programme for its postgraduate students and which is being taken by students from other departments as well.</p>
<p>The department should focus on improving recruitment procedures in order to attract</p>	<p>QPC endorsed recommendation. The QPC encouraged flexibility in the</p>	<p>This is already occurring. The department has postgraduates from very diverse backgrounds</p>

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high quality postgraduates from a wider range of institutions and backgrounds.	approach of the department to accepting applications for postgraduate study and recommended that the emphasis should be placed on the quality of the students and not just on the basic degree.	and from Europe, US and beyond.
The department should continue to work closely with individual companies and consortia, with other departments in the Faculty, the National Food Biotechnology Centre, the UCC Food Industry Training Unit, the UCC Food Industry Partnership Board and state agencies such as FAS, Enterprise Ireland, Teagasc and DAFRD to further develop its food extension/innovation service to the Food Sector.	QPC endorsed recommendation and welcomed action by staff of department. The QPC applauded the successes of the department to date.	On-going.
The department should further develop its strategic linkages and research collaboration with other research institutions in Ireland, the EU and globally.	QPC endorsed recommendation and welcomed action by staff of department. The QPC reiterated the importance of activities in this area.	On-going. For example, the department is involved in two of the EU Framework 6 Networks of Excellence, which are the cornerstone of development of critical mass of researchers in a particular area within the ERA. In addition, the department have staff associated with the two interdisciplinary research institutes (BSI and ERI) as well as the APC.
The department should place increased emphasis on staff development needs, including active mentoring, development of teaching, learning and assessment skills (for new academic staff), a greater use of sabbatical leave (all academic staff), performance evaluation (all staff) and ongoing training for technical and administrative staff.	Staff of department should be actively encouraged to avail of the programmes already in place in UCC to support academic staff in teaching and learning. Performance evaluation is presently being considered and drafts of guidelines for how this can be implemented college-wide have been prepared by the Department of HR and are presently being considered by the relevant	Performance evaluation of all staff will be conducted when the guidelines for the implementation of the performance management review scheme have been approved by the Governing Body following completion of the pilot programme presently on-going. This is expected in January 05.  Staff of department are actively encouraged to avail of the

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	groups in UCC with a view to implementation as soon as possible.	programmes already in place in UCC to support academic staff in teaching and learning.