

Department of Microbiology

Biomerit Research Centre

Peer Review Group

Professor K. T. Higgs, Department of Geology, UCC (Chair)
Professor E. J. Johns, Department of Physiology, UCC
Professor E. Colleran, Department of Microbiology, National University of Ireland
Galway, Ireland
Professor J. I. Prosser, Department of Molecular and Cell Biology, University of
Aberdeen, UK.

Brief Description of conduct of site visit

The site visit was conducted over 2.5 days from 16th – 18th February 2004 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, past graduates and other external stakeholders
- iv) Professor M. Aidan Moran, Registrar & Vice-President for Academic Affairs
- v) Professor Michael O’Sullivan, Vice-President for Planning, Communications & Development,
- vi) Professor Yrjö Roos, Dean, Faculty of Food Science & Technology
- vii) Professor Patrick Fitzpatrick, Vice-Dean, Faculty of Science
- viii) Dr. Ruth Davis, Research Office
- ix) Professor Fergus Shanahan, Director, BioSciences Institute
- x) Mr. Richard Bradfield, UCC Library

and visits to departmental 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 Microbiology

Head of Department: Professor Gerald Fitzgerald

No. of Staff: 13 academic staff, 1 special teaching assistant, 1 visiting professor, 5 technicians, 1 departmental operative, 3 administrative staff (2 job-share)

Location of Department: Food Science & Technology Building and BioSciences Institute

Degrees/Diplomas offered: BSc, MSc, PhD, HDip in Applied Sciences

No. of Students: Department has 275 Student FTEs: 206 UG and 69 PG FTEs distributed as follows:

Year 1	Year 2	Year 3	Year 4	JYA	Socrates	Total U/G	H Dip	Master Taught	Master Research	PhD	Total P/G
19	56	69	57	2	3	206	3	7	11	48	69

Mission Statement

“The mission of the Microbiology Department is to excel in all facets of its discipline through a balanced combination of teaching and research.”

Aims & Objectives

- To offer a BSc (Microbiology) Degree to the highest possible standard covering all areas of modern microbiology

- To offer the best possible postgraduate training
- To make UCC the first choice University for the best undergraduate students
- To maintain its international reputation for excellence in research.
- To maintain a collegiate, cooperative, pleasant, productive work environment.

General Comment on Quality Review

The reviewers congratulated the Department coordinating committee, its chairman and the Head of Department on an excellent report and for being most helpful, forthcoming and honest with the Peer Review Group. The PRG was very impressed with the Department's delivery of the self-assessment report documentation, which highlighted the quality and eminence of the Department within this area of expertise in Ireland, both in teaching and research.

The benchmarking exercise carried out using the Division of Microbiology/Virology within the Department of Biological Sciences, University of Warwick, was thorough and critical. The PRG felt that the self-assessment review was both detailed and comprehensive in its content, although the profile of technical staff could have been greater. A number of minor omissions were addressed by presentation of documentation during the site visit.

The PRG was broadly in agreement with the Department's overall analysis of strengths, weaknesses opportunities and threats. The reviewers addressed each weakness, opportunity and threat by specific recommendations.

Progress on Implementation of Recommendations for Improvement

A meeting to discuss progress made in implementing recommendations for improvement arising from the review of the Department of Microbiology was held on 17th January 2006.

Present: Professor Fergal O'Gara, Head, Department of Microbiology
 Ms. Hilda Bohane, Departmental Manager, Department of Microbiology
 Professor Patrick Fitzpatrick, Acting Head, College of Science, Engineering & Food Science
 Dr. Norma Ryan, Director of Quality Promotion

Abbreviations

PRG: Peer Review Group

SEFS: Science, Engineering & Food Science

QPC: Quality Promotion Committee

HR: Human Resources

Recommendation of PRG	Recommendation of QPC	Follow-up Report January '06
Development of an inclusive and realistic strategic plan, whose ambition and aspirations reflect the quality and dynamism of the staff.	Endorsed strongly by QPC.	Implemented. The Department has produced a new strategic development plan for the discipline of Microbiology for the period 2005 – 2010. The Department has prioritised and developed a framework for implementation of the strategic plan. The Strategic Plan is based

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		on elements of the quality review and on internal and external environmental parameters.
Completion of a review of management structures and establishment of a Departmental Management Board, with participation of representatives of all staff groups within the Department in regular meetings to discuss strategy, policy and implementation.	Endorsed.	Implemented. A new Departmental Management Board has been formulated and the new structure is in place and operating
Establishment of Departmental Staff Council and other mechanisms to increase communication and maintain Departmental identity.	Endorsed.	Implemented. As per Steering Group & Subgroups in Strategic Plan.
Establishment of undergraduate student-staff committees and formal course feedback mechanisms to improve communication, foster identity with the Department and improve teaching quality.	Endorsed strongly.	Implemented. A Student:Staff Liaison Committee is in place and functioning. The Department has a feedback mechanism in place for all continuous assessment exercises.
Reduction in teaching loads through: (a) Involvement of postdoctoral researchers in provision of a limited number of lectures and tutorials; (b) Rationalisation of duplication and overlap in undergraduate teaching; (c) Exploration of 'external funding' of teaching through buy-out of academic time and employment of additional teaching assistant(s).	Endorsed. The QPC commented that reduction in teaching loads should be effected by (i) a re-distribution of the load so that, in so far as possible, all members of the academic staff should carry an equal teaching load; (ii) by a rationalisation of the total departmental load; and (iii) greater use of postdoctoral researchers. The QPC commented that it is also advantageous for postdoctoral researchers to have some experience of teaching in their CV and that in many institutions it would be standard practice for postdoctoral researchers to have	Implementation is on-going. All academic staff carry an approximately equal teaching load, including the Head of Department. There is now a limited involvement of postdoctoral researchers in teaching to undergraduates. The Department has a written policy that the Head of Department approve all such teaching. This has resulted in a marginal reduction of teaching workload for academic staff. A review of the curriculum is underway. The BSc Hons Microbiology programme has

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	<p>some teaching and examining experience.</p> <p>The QPC did not endorse the recommendation (c) on exploration of external funding to buy-out teaching and referred the Department to the comments of the Dean of Science, which it endorsed.</p>	<p>been restructured and as a consequence some flexibility is being developed, with a re-orientation of effort. The Department is aiming to ensure the competitiveness of the graduates is enhanced by the changes.</p>
<p>Exploration of alternative teaching approaches, particularly for large classes.</p>	<p>Endorsed.</p>	<p>In the process of implementation.</p> <p>A curriculum review has been undertaken and changes planned to the curriculum. These have commenced at 2nd Year level and will be implemented in 3rd Year and 4th Year programmes as the programme develops.</p>
<p>Urgent implementation of the report of the Departmental Curriculum Review Committee (due shortly) in order to streamline existing modules, avoid duplication and reduce formal teaching loads.</p>	<p>Endorsed.</p> <p>The QPC requested that a copy of the report (when available) be sent to it.</p>	<p>Implemented.</p>
<p>Provision of instruction of basic IT skills, highlighting of training in transferable skills and greater practical training in molecular techniques.</p>	<p>The QPC noted that the Computer Centre offer a basic IT skills training course free of charge to students. The uptake last year was very low. The course will be available in 04/05 and the QPC would encourage the department to advise their students of the availability of the course.</p> <p>The QPC noted the comment re training in molecular techniques and considered this is for the department to implement as it deems appropriate.</p>	<p>Implemented.</p> <p>The postgraduates take the generic module: STEPS and at undergraduate level IT is incorporated into the laboratory training. In parallel there is a programme of training for technical support staff especially at international levels.</p> <p>A new postgraduate generic module on 'Biotechniques' has also been developed. This module will be made available to postgraduates outside the Department of Microbiology as well as to postgraduate students studying Microbiology at postgraduate level.</p>
<p>Further enhancement of</p>	<p>QPC endorsed the following</p>	<p>The Department has been seeking</p>

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<p>international research quality and profile through:</p> <p>(a) Increased publication in high impact generalist scientific journals (e.g. Nature, Science, PNAS);</p> <p>(b) identification of career development needs, including sabbatical leave;</p> <p>(c) employment of research technical staff;</p> <p>(d) expansion of international visitor programmes;</p> <p>(e) organisation of more conferences;</p> <p>(f) increased participation in Learned Society committees, funding bodies and editorial boards;</p> <p>(g) development of new research initiatives (including Medical Microbiology).</p>	<p>recommendations, provided they can be implemented within the resources of the Department, that is, either within existing resources or by use of external funding sources:</p> <p>(a) (b) (d) (e) (f) (g).</p> <p>With respect to (c) the QPC noted this recommendation. Resources for staffing appointments in the Department are a matter for the Dean of Science and, in the present climate, are scarce. The QPC recommended that the Department make the request to the Dean.</p> <p>The QPC also noted the success of staff of the Department in attracting significant research funds and suggested that financing of a research technician post could be sought via external funding.</p>	<p>by all possible means to implement this recommendation. The Department found this to be a very helpful and supportive recommendation. The Department has established a Research Committee, has published in prestigious international journals such as PNAS and Nature Review, in the past six months. The Department recognises that such activities also aids in attraction of external funding.</p> <p>In order to sustain the Genetics Programme and to develop new initiatives in Systems Biology/Microbiology, new academic posts are urgently needed. Resources for staffing appointments are being sought in discussions with the Head of College.</p> <p>An additional contract post for an instrument technician has been created and filled by the University, funded from research budget overheads. Additional administrative support is also required if the Department is to continue to develop.</p> <p>Departments and PI's generating overheads must be recognised and receive a proportionate share of the overheads income generated to sustain relevant activities.</p>
<p>Introduction of an annual review of job satisfaction and training needs for career development for all staff.</p>	<p>QPC noted that the Department of HR are already piloting a programme for performance management and review. This will be obligatory for all staff when the pilot has been completed.</p>	<p>The Department has been implementing such a system for junior staff on a voluntary, semi-confidential basis. The Head of Department meets privately with staff and discusses career development with each member on a regular basis.</p>
<p>Promotion and marketing of undergraduate courses and</p>	<p>Endorsed.</p>	<p>Implemented and on-going.</p>

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research activities of the Department.		Part of the consideration and development of the new programme in Microbiology was the issue of marketing it and included relevance of the discipline to different sectors, e.g. medicine, environment, food. The Department has taken a decision to focus on and specialise in areas of microbiology in which it is competent.
Appointment of a Departmental manager with responsibilities for financial monitoring of departmental funds and research grants, interactions with students, liaison with central administration, public relations and promotion and implementation of decisions.	The issue of under what conditions and how departmental managers should be appointed has been referred to the Department of HR and Deans-EMG for consideration. The QPC noted that in the past a departmental manager may be appointed when there are a number of administrative staff in the department and within existing resources.	Implemented. A departmental manager was appointed in 2005.
Appointment of two – three academic staff to maintain momentum and vibrancy.	While recognising the momentum and vibrancy of the activities of the Department the QPC is unable to endorse this recommendation in the present financial climate. The Department is recommended to continue to make submissions to the Dean of Science.	Not implemented. The Department anticipates that the Resource Allocation Model scheduled for implementation in UCC in October 2006 will assist in the implementation of this recommendation.
Appointment of two technical staff to improve undergraduate practical teaching for and maintenance, operation and full utilisation of sophisticated and specialist equipment and facilities.	QPC suggested that the Department seek resources from the Dean of Science for appointment of additional technical staff.	Implemented. One permanent appointment has been made, bringing the Department to its full complement. A second contract appointment has also been made in the specialist area of Proteomics in collaboration with the BSI.
Urgent and drastic improvement in the Library provision of textbooks and journals, in particular on-line journals.	QPC noted that possible solutions to the provision of textbooks and journals are being actively pursued by the Librarian and the University. In	Implemented. The SFI initiative on provision of electronic access to journals has been a very positive and welcome

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	<p>particular, here are on-going discussions with SFI in relation to this. It is hoped that some alleviation of the situation will occur within the coming academic year.</p>	<p>improvement. There is a reasonable provision of teaching textbooks in the Library.</p>
<p>Urgent refurbishment of teaching laboratories.</p>	<p>The QPC noted the comments of the PRG and referred the Department to the comments of the Dean of Science. The QPC did not feel itself to be in a position to judge the list of priorities for refurbishment and accepted the judgement of the reviewers that the laboratories are in urgent need of refurbishment.</p>	<p>The Department is continuing to liaise with the Acting Head of the College of SEFS. It is hoped that the new sources of funding being discussed at national levels will provide some funds for this purpose.</p> <p>The issue of compliance with Safety, Health & Welfare statutory requirements is to be addressed directly as a standalone issue in consultation with the Head of College.</p>
<p>On-going assessment and upgrading of infrastructure for teaching and research activities, equipment and facilities.</p>	<p>The QPC commented that the University recognises the need for assessment and upgrading of infrastructure for teaching and research activities, etc. The QPC will support all efforts of the Department at seeking funding opportunities.</p>	<p>The Department is presently in discussion with the Acting Head of the College of SEFS and is examining initiatives for infrastructural developments and provision of additional space, equipment, etc.</p>