UNIVERSITY COLLEGE CORK NATIONAL UNIVERSITY OF IRELAND, CORK

QUALITY IMPROVEMENT/QUALITY ASSURANCE

PEER REVIEW GROUP REPORT

COLLEGE OF SCIENCE, ENGINEERING AND FOOD SCIENCE

ACADEMIC YEAR 2011-12

Date 26/1/2012

PEER REVIEW GROUP MEMBERS

Name	Position/Discipline	Institution
Professor David Fearn	Dean of Learning & Teaching, Professor of Applied Mathematics	University of Glasgow, Scotland
Professor Fan Hong	Head, School of Asian Studies	University College Cork
Dr. Bernard Mahon	Dean, Faculty of Science & Engineering	NUI Maynooth
Mr. Shane Murphy	Deputy President, Students Union	University College Cork
Professor Emma Raven	Chair, Research Committee, Department of Chemistry	University of Leicester, UK

TIMETABLE OF THE SITE VISIT

The timetable for the conduct of the site visit is attached as Appendix A.

The Peer Review Group found the timetable to be appropriate and suitable for the purposes of the review. The reviewers divided into two groups for the tour of facilities and visited the facilities in the Western Gateway Building, the Kane Building and those on the Distillery Fields. There were many different meetings scheduled with staff, students and officers of the University as well as with some representatives of external stakeholders. The schedule was intense. However the members of the Peer Review Group felt they received a comprehensive overview of the College in a short time.

PEER REVIEW

Methodology

The members of the Peer Review Group acted as a team throughout the site visit. In some instances the group did split into two in order to cover a wider variety of activity/meet with more stakeholders. However all information was shared with the other members of the group following such activities.

Professor David Fearn was appointed Chair of the PRG at the beginning of the first full day. All members took shared responsibility for questions and topics and for drafting sections of the report. An initial draft of the report was prepared during the

afternoon and evening of the second full day of the site visit. The report was finalised subsequent to the site visit using email communications. All members of the PRG agreed the report.

OVERALL ANALYSIS

Self-Assessment Report

The PRG felt that the report represented a considerable effort by the Head of College and the management team and that the College is achieving much in very difficult financial circumstances. The SAR identifies many significant issues and makes recommendations for addressing these. The majority of these are contained within those we make, below, in the Section "Findings of the Peer Review Group". However, the PRG considered the SAR to be incomplete, failing to enumerate some very significant strengths. The report tended to focus on smaller and internal issues. Generally, it was felt that the document was unduly and unnecessarily concentrated on processes and management structures, and there was limited strategic thinking or vision.

SWOT Analysis

It was felt that the section headed "SWOT analysis" in the SAR did not adequately present the many strengths, nor did it clearly identify weaknesses. It was felt that SEFS has a number of potential opportunities on the horizon that have yet to be properly explored. More problematic is the number of potential threats, largely a consequence of the challenging climate in which SEFS finds itself. It was felt that more drastic solutions to some of these problems need to be sought, as, if not addressed, they could have a very damaging impact on research activities in the long term. A strategic and detailed/quantitative/methodical solution to these difficulties was not well articulated. There are many potential risks to be dealt with, including the economic climate and further cuts, staff morale, staff retention and decreasing research income/quality.

There appeared to be little or no student input into the SWOT, and insufficient consultation with students. The benchmarking with other similar units or institutions was not visible. It was felt that the college management team should be looking strategically at opportunities, and planning for long term decisions on a strategic basis.

A SWOT analysis, as bullet points extracted from the panel discussions, is articulated below. Some of these are specific to SEFS while others are broader, but impacting on SEFS. Many of these points are made in various places throughout the SAR. The panel was of the view that it was generally helpful to have these listed clearly, together.

Strengths

- A strong research profile. With some 85% of UCC's researchers, the College is an essential part of UCC's identity and strength.
- Excellent staff, strongly committed to their students, with a good level of innovation in learning and teaching.
- The quality of the accommodation, in particular the Western Gateway Building, was considered to be a great strength and the College is to be much commended on this. The co-location of different research disciplines/individuals, eg BEES, WGB, was considered to be very positive. The panel was able to see real benefits of the synergies of placing people in a close working environment.
- The overall research record and success in competitive funding in centres of excellence.
- The quality of the associated research centres.
- UCC and SEFS have a captive market in the southwest with a strong regional identity.
- There are many well-connected local stakeholders very committed to UCC (although perhaps these are not exploited sufficiently).
- The condition of some of the laboratory areas (such as the Eureka labs for the second level teacher support) were impressive and a great asset.
- The new College structure is demonstrating benefits:
 - Programme approval processes are now done at college level (although there may be further scope for streamlining).
 - The development of new interdisciplinary programmes, eg Masters in Bioinformatics, with good support from the College in their establishment.
 - A strategic approach in making new appointments.
 - Devolution of budget, and improvement in clarity and transparency of finances. Early allocation of school budgets is seen as very helpful.
- The programme for student placements with industry was considered a great strength. This operates for some programmes within the College. The dedicated student placement officers, supporting students in placement, in CV preparation etc., was considered to be a very positive element in these programmes. Work placement was more effective, being organised at College level. The offering of a work placement is also a very positive marketing point for overseas students.

Weaknesses

• While some of the science accommodation is excellent (above), some other areas are shockingly bad, in particular some of the Chemistry and Physics teaching areas in the Kane Building. The laboratories are quite clearly not fit for

purpose, especially considering the numbers of students using them. There may even be safety implications, especially in the Chemistry labs.

- The low level of overheads on research grants; failing to meet the full economic cost of undertaking research projects.
- The relationship between research institutes and SEFS are unresolved, which creates confusion in the system.
- There are differences in the treatment of postgraduates, depending where they are located, especially in institutes *vs* dept, which creates a differential learning environment.
- There is a lack of a fully resolved administrative structure in the College, with some schools and some departments, with vestiges of the old faculty system still present, despite a long and exhaustive process of restructuring. This creates a system in which the organisation looks inwards instead of outwards. It causes confusion, a lack of clarity in communication and impacts on decision making.
- The internal structures and committees are overly complex, which makes it difficult to make fast decisions and also difficult to make efficiencies by cutting out unnecessary bureaucracy. The panel did not see convincing evidence that the College Council and College Assembly were necessary or effective.
- It was felt that the external political/economic climate was sufficiently grave that the well-intentioned desire to consult everyone in every decision was no longer possible, and that decisions should be devolved more frequently so that time could be invested in higher-level, longer-term, more strategic planning.
- There is still ambiguity over the School of Life Sciences, which needs to be immediately resolved.
- There is a lack of a strategy for internationalization, for example to:
 - develop international student numbers in a coherent way and to use this to generate income at school and college level,
 - o tackle the low numbers in 2+2 programmes,
 - o encourage student exchange activity.
- There is no strategic fund for the Head of College, which diminishes the visibility, authority and effectiveness of the College.
- It was felt that the web site could be improved, but it was acknowledged that this was being also addressed at university level.
- The travel time between different centres (eg between distillery fields and other locations on campus) has an impact on teaching at UG levels.
- There are timetabling issues for lectures and classroom locations. Timetable clashes appear to be a regular feature of the beginning of the session.

Opportunities

- To earn income from overseas student fees, as the current numbers of overseas students is rather small.
- To create a college investment fund to allow the CMT to invest in activities aimed at promoting college strategy. The PRG noted research grants overheads of some €2m per year and a non-pay budget of €4.5m.
- Positive actions which support the idea/visibility of the College, for example seminars, strategic investments.
- Expansion of work placement system (see above).
- To create efficiencies in administration and teaching, across the College, preserving time for research and development of new taught programmes.

Threats

- The future of research institutes in terms of contract staff and their impact on SEFS if research income falls.
- The failure to realize efficiency through a completion of the restructuring creates a real and immediate risk to the College. This inefficiency leads to increased teaching burdens, reduced research income, with early career researchers being overburdened and less able to do competitive research. This could have long-term and potentially very damaging consequences to the productivity and competitiveness of mid-level/younger scientists. The College needs to take specific actions to address this or risk degrading the research profile of key staff, as well as the student experience.
- The inability to promote staff due to financial situation and the Government Employment Control Framework If not resolved will impact on staff morale, productivity and retention. Especially if competitor institutions find imaginative ways to achieve promotion.
- The potential loss of key staff at the end of February, with the current incentivised opportunity for early retirement.
- The likely decline in research income and inability to fund research and postgraduate students was considered to be a very serious threat. There was no evidence of real consideration being given to threats and risks due to decline in research income.
- There was felt to be a lack of implementation of new structures creating a level of uncertainty and lack of clarity in reporting relationships.
- Chemistry and Physics undergraduate laboratories are in very poor condition; this could affect undergraduate numbers and the student experience.
- The Cooperage building needs a roof.
- There was no evidence of research planning / research strategy at College level.

Benchmarking

The SAR contains no element of benchmarking. An opportunity has been missed to make comparison of KPIs and survey results in the College with those of comparator units, seeking to learn from best practice elsewhere. Limited College-level organisational comparisons were tabled during the site visit.

FINDINGS OF THE PEER REVIEW GROUP

Key Messages

From its reading of the self-assessment and its comprehensive series of meetings, and site visits, the Peer Review Group has identified the following key messages:

- 1. Nationally, this is a time of unprecedented financial difficulty, imposing very serious financial constraints on universities. It is probably not going too far to say this is an emergency situation, and the College has to take drastic action in order to survive.
- 2. The College has many strengths, not all of which were articulated in its selfassessment. One of these is a very strong research profile (300 researchers, some 85% of those in the University), making it an important part of the University's profile.
- 3. The PRG found the self-assessment to be too inward-looking and lacking a strategic vision. There is over-concern about the position of moderation and about processes.
- 4. There are significant opportunities that the College can grasp in order to be master of its own future, as explained below.
- 5. There are some valid observations about the fairness of the University's Resource Allocation Model. It is likely that planned changes to the RAM will address this issue. A perception of fairness is important for staff morale and motivation. Changes may well ameliorate the College's deficit position. However, this will in no way solve the financial problem.

Recommendations for Improvement

In the light of these key messages, and taking into consideration the College's recommendations in its SAR, the Peer Review Group has incorporated the latter, as deemed appropriate, in making the following major recommendations. More minor actions can be taken in response to the SWOT above. The majority of these recommendations coincide with those that SEFS identified themselves.

Recommendation 1. Finalise the College of SEFS internal Structure.

The review panel identified a serious risk. The current external situation has aligned a number of forces that are already having an impact on operations. These include but are not limited to: reduced staff numbers, increased teaching burdens, poor student:staff ratios, and an inability to promote staff. These issues are leading to a significant burden on early-career staff and the capacity of these staff to develop competitive research careers is becoming compromised. The College can take actions to address this. In particular, the PRG recommend that dormant Faculties now dissolve themselves. The finalised SEFS structure should allow academic units to rationalise teaching, and eliminate duplication of teaching or administration. Failure to achieve this will result in a demoralised research community and researchers who will not be competitive, even within the national system. The overburdening of staff may also pose a risk to the quality of teaching and the student experience. The first signs of this may already be evident; we heard evidence of concerns about the quality of feedback to students, the provision of tutorials and field trips. The lack of implementation of new structures has created a degree of uncertainty and confused reporting relationships which also corrode the research time of SEFS academic staff. The time has also come for a closer integration of research institutes into the SEFS structure. The panel realises this will vary in nature with the different scales of institutes but the opportunities to share postgraduate structured PhD training and to create a vibrant research culture in SEFS should not be missed.

The PRG strongly supports the Head of College and the College Management Team to lead this process to a speedy conclusion, and recommends that a budget is set aside to allow the CMT to pump-prime initiatives aimed at advancing the College strategy.

Recommendation 2. SEFS must focus management activity at strategic activity.

SEFS activity at management level is understandably concentrated on internal operational actions. However the time has come for the College Management Team to look at opportunities and possibilities for action, and making decisions on a strategic basis. The panel saw insufficient evidence of research planning or strategy at College level. The panel recommends that alternate management meetings are devoted to solely strategic matters. It is envisaged that senior management officers of the university (VP research/ VP Teaching & Learning, VP Internationalisation, Dean Grad studies) attend meetings specifically targeted to their responsibilities, and that the conveners of the relevant College committees are fully involved. College level strategies and implementation plans for each area might be considered.

Recommendation 3. SEFS must plan for Sustainable finances.

The College should create a long-term income generation plan aimed at balancing the College's budget within a set timeframe, eliminating its reliance on moderation funding.

Recommendation 4. SEFS must exploit opportunities for income generation.

Key opportunities for income generation are international student fee income and CPD provision. In order to drive this process, the College must develop incentivisation mechanisms as well as agreeing targets, both at College level and drilled down to School level, so that each School is clear about its expected contribution.

Recommendation 5. The College of SEFS needs to be engage with internationalisation systematically.

The internationalisation agenda is critical to the long term sustainability of the College of SEFS. However, at present, this appears to be overly devolved, fragmented and not coherently undertaken. A great deal of effort in this area might be more effectively mobilised. The College needs to develop quickly an Internationalisation strategy. It should interact with other colleges or indeed other institutions to develop effective means to achieve this. Areas that will be essential are the development of a portfolio of attractive offerings, and rebranding or redesigning existing programmes for improved uptake. Likewise a system that allows the rapid conversion of applications to offers, and offers to registrations will be essential. These developments need to be informed by market research and also effectively marketed. The College must guickly identify a leader or champion with responsibility in this area who can drive this forward and ensure that ambitious targets and incomes are realised. The panel also appreciates that Internationalisation is greater than incoming student recruitment. The College must also consider ways to develop international partnerships, and exchanges that enhance the research and teaching /learning missions of UCC and the aspirations of staff and students.

Recommendation 6. Improve the external focus of SEFS.

In addition to internationalisation, SEFS requires a greater external focus, for example the engagement with industry and with the development of Higher Education in the region. SEFS is well-placed to take a lead in the development of regional clusters in Higher Education as recommended by the Hunt Report.

Recommendation 7. Develop a SEFS Research strategy

There needs to be a clear strategy for the development of research in the College, taking account of national priorities, funding opportunities and research strengths. It was felt that the SAR did not show adequate evidence of research quality, even though it clearly exists in centres of excellence. While the College Strategic plan 2008-2012 contains a section on Research, there was no current evidence of long-term research planning, either at school/department level or within the College research committee. This was considered to be potentially very damaging in a climate of reduced pools of funding for research, increased teaching loads and lower staff numbers. It is likely in future that funding opportunities will be aimed at larger

groupings of research staff. A benefit of the restructuring into Colleges is their size, and potential to build strong interdisciplinary research groupings; the College will need to begin to plan for that by developing its internal research areas and grouping staff accordingly.

Recommendation 8. Develop and implement Workload Models within SEFS/UCC

The further development and implementation of a College workload model is essential to driving the College strategy. Creating the time for individuals to lead strategy and to work on, for example, the development of new PGT programmes aimed at attracting overseas students is vital. An effective WLM is also important in managing equity and transparency of activity and helping to ensure that activity is well aligned with the College's strategic aims.

Recommendation 9. Address Infrastructure deficits in SEFS

The College has a strength in some of its existing accommodation and the proximity or co-location of cognate disciplines. However the PRG recognised some deficits that should be addressed without delay. For example the teaching laboratories in Chemistry and Physics (Kane building) were not fit for purpose and need to be refurbished. Likewise the roof of the Cooperage is compromised and in need of repair, before more significant structural damage occurs.

Concluding Remarks

The PRG recognise the significant strengths of the College, and the extremely difficult circumstances that Irish universities are operating under, both financial and regulatory. With the external perspective that the PRG has, it has made its recommendations in the hope that they are supportive to the College Management Team and the Head of College in decisively taking forward actions that will improve the quality of its Research and Teaching activities and improve its financial position. The PRG wishes it success.

Summary of Recommendations for Improvement made by the PRG

- 1. Finalise the College of SEFS internal Structure.
- 2. SEFS must focus management activity at strategic activity.
- 3. SEFS must plan for Sustainable finances.
- 4. SEFS must exploit opportunities for income generation.
- 5. The College of SEFS needs to be engage with internationalisation systematically.
- 6. Improve the external focus of SEFS.
- 7. Develop a SEFS Research strategy.

- 8. Develop and implement Workload Models within SEFS/UCC.
- 9. Address Infrastructure deficits in SEFS.

APPENDIX A

COLLEGE OF SCIENCE ENGINEERING & FOOD SCIENCE (SEFS)

PEER REVIEW GROUP SITE VISIT TIMETABLE

In Summary

Monday 28 November:	The Peer Review Group (PRG) arrives at the River Lee Hotel for a briefing from the Director of the Quality Promotion Unit, followed by an informal meeting with staff members.
Tuesday 29 November:	The PRG considers the Self-Assessment Report and meets with College staff and student and stakeholder representatives. A working private dinner is held that evening for the PRG.
Wednesday 30 November:	The PRG meets with relevant officers of UCC. An exit presentation is given by the PRG to all members of the College. A working private dinner is held that evening for the PRG in order to draft the report. This is the final evening of the review.
Thursday 1 December:	External PRG members depart.

Monday 28 November 2011	
16.00	Meeting of members of the Peer Review Group Briefing by Director of Quality Promotion Unit, Dr. Norma Ryan. 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.
19.00	Informal dinner for members of the Peer Review Group, Head of College of SEFS and College Steering Committee. College of SEFS Quality Review Steering Committee:
	Professor Patrick Fitzpatrick, Head, College of SEFS Dr. Tanya Mulcahy, College Manager, Chair of SEFS Quality Review Steering Committee Ms. Ann O'Brien, School of Computer Science and Information Technology Professor John O'Halloran, Head, School of Biological, Earth and Environmental Science (BEES)
Tuesday	⁷ 29 November 2011 Venue: Room 2.16, 2 nd Floor, Western Gateway Building
08.30	Convening of Peer Review Group
08.45	Professor Patrick Fitzpatrick, Head, College of Science, Engineering & Food Science
09.30	Group meeting with all SEFS Steering Group staff: Professor Patrick Fitzpatrick, Head of College Dr. Ben McKay, School of Mathematical Sciences Dr. Tanya Mulcahy, College Manager (Chair) Ms. Ann O'Brien, School of Computer Science and Information Technology Professor John

	O'Halloran, Head of School of Biological, Earth Mr. Allen Whitaker, School of Biological, Earth		
10.30	Tea/coffee		
11.00	Private meetings with individual staff members	Private meetings with individual staff members	
	 11.00: Dr. Paul Young, Biochemistry 11.10: Dr. Jill Haynes, SEFS Project Officer 11.20: Dr. David Clarke, Microbiology 11.30: Ms. Phil Fogarty, School of BEES 11.40: Dr Kellie Dean, Biochemistry 11.50: Ms Linda Lynch, Placement Officer Venue: Room 2.16, Western Gateway Building 	 11.00: Ms. Carmel Cotter, SEFS Financial Analyst 11.10: Ms. Kate O'Brien, Manager, School of BEES 11.20: Dr. Ian Pitt, Computer Science 11.30: Professor Douwe Van Sinderen, Microbiology 11.40: Ms. Teresa Dwan, SEFS College Office 11.50: Mr Pat O'Connell, Placement Officer Venue: Room 2.31, Western Gateway Building 	
12.00	Visit to core facilities of the College, escorted by Professor Fitzpatrick, Head of College & Dr. Tanya Mulcahy, College Manager.		
12.40	Working lunch		
13.30	Meeting with College of SEFS Management Team, Heads of Schools/Departments and representatives from College of SEFS Professor Patrick Fitzpatrick, Head of College Professor James Bowen, Head, Department of Computer Science (School of Computer Science and Information Technology) Dr. Michael Creed, Head, School of Engineering Ms. Carmel Cotter, College Financial Analyst Professor Tom Cotter, Head, Department of Biochemistry, School of Life Sciences Professor Gerald Fitzgerald, Department of Microbiology Dr. James Grannell, Head, School of Mathematical Sciences Professor John McInerney, Head, Department of Physics Dr. Tanya Mulcahy, College Manager Professor John O'Halloran, Head, School of Biological, Earth and Environmental Sciences Dr. Ruth Ramsay, Head of Graduate School Professor John Sodeau, Head, Department of Chemistry		
15.00	Representatives of 1st and 2nd year undergraduate studentsAngela Alabi (Chemical Sciences, 1st Yr) Caitlin Keane (Electrical Engineering, 1st Yr) Adrian Maguire (Biological Science, 1st Yr) Siobhan O'Connell (Genetics, 2nd Yr) Peter White (Food Marketing, 1st Yr)	Representatives of 3 rd and 4 th year undergraduate students Therese Cantwell (Astrophysics, 3 rd Yr) Aoife Darby (Environmental Science, 4 th Yr) Leo Kavanagh (Maths, 3 rd Yr) Colin Keane (Zoology, 4 th Yr)	
15.45	Representatives of postgraduate students Shelley Conroy, Tyndall National Institute/Chemistry Caitríona de Paor, Civil Engineering Cathal Hoare, Computer Science Cat O'Driscoll, Education Officer, Students' Union John O'Donoghue, Chemistry		

17.00	Meeting with Stakeholders Ms Orna Coakley, Chairperson, Irish Science Teachers Association Ms Marian Daly, Branch Treasurer, Irish Science Teachers Association Mr Michael Dowling, Chair, UCC-Teagasc Alliance Dr Hugh McGlynn, Cork Institute of Technology Ms Tina Raleigh, Fehily Timoney & Co., Cork Mr James Robinson, Engineers Ireland, Cork			
Wednesday 30 November 2011 Venue: Tower Room 1, North Wing, Main Quadrangle				
08.20	Convening of Peer Review Group			
08.30	Mr Trevor Holmes, Vice-President for External Relations			
08.45	Professor Paul Giller, Registrar & Senior Vice-President			
09.30	Preparation of first draft of final report			
09.45	Mr. Con O'Brien, Vice-President for the Student Experience			
10.00	Ms. Helen O'Donoghue, Human Resources, HR partner to College of SEFS			
10.15	Tea/coffee			
10.30	Mr. Cormac McSweeney, Finance Office			
11.00	Professor Anita Maguire, Vice-President for Research & Innovation			
11.15	Professor Grace Neville, Vice-President for Teaching and Learning			
11.30	Ms Eleanor Fouhy, Administrative Officer, Office for Academic Programmes			
11.45	Meeting with Vice-Heads/Chairs in College of SEFS	12.00 – 12.15		
	Prof D Fearn; Prof Fan H	Dr. B. Mahon		
	Prof E. Raven; Mr S. Murphy Dr. Ed Byrne, Chair, Teaching & Learning and Student Experience Committee Dr. Ruth Ramsay, Head of Graduate School & Chair of Graduate Studies Committee Professor Paul McSweeney, Chair of the Academic Programmes and Curriculum Development Committee	Professor Alan Kelly, Dean of Graduate Studies, UCC		
	Dr. Tanya Mulcahy, member Research Committee			
12.15	Mr. Michael Farrell, Corporate Secretary			
12.45	Dr. Michael Murphy, President			
13.15	Working lunch			
14.00	Preparation of first draft of final report			
16.30	Professor Patrick Fitzpatrick, Head, College of SEFS			

17.00	Exit presentation to all staff made by the Chair of the Peer Review Group summarising the principal findings of the Peer Review Group. This presentation is <u>not</u> for discussion at this time.
19.00	Working private dinner for members of the Peer Review Group to complete drafting of report and finalisation of arrangements for completion and submission of final report.