

Quality Assurance / Quality Improvement
Programme for Academic Units
2006-2007



Peer Review Group Report

National Institute for Cellular Biotechnology

Names of the Peer Review Group members (Chair first)

Chair – Professor Ralph de Vere White Director UC Davis Cancer Centre University of California
Dr. Brendan Hughes Director of Development Wyeth Biotech Grange Castle, Dublin 22
Dr. Michael Moriarty Consultant Oncologist St. Luke's Hospital/St. Vincent's University Hospital.
Dr. Kay Mac Keogh Senior Lecturer Oscail – National Distance Education Centre Dublin City University
Rapporteur - Dr. Enda McGlynn Senior Lecturer School of Physical Sciences Dublin City University

21-23rd March 2007

Introduction

This Quality review has been conducted in accordance with a framework model developed and agreed through the Irish Universities Association Quality Committee (formerly CHIU – IUQSC) and complies with the provisions of Section 35 of the Universities Act (1997). The model consists of a number of basic steps.

1. An internal team in the Unit being reviewed completes a detailed self-assessment report (SAR). It should be noted that this document is confidential to the Unit and to the Review Panel and to senior officers of the University.
2. This report is sent to a team of peer assessors, the Peer Review Group (PRG) – composed of members from outside DCU and from other areas of DCU – who then visit the Unit and conduct discussions with a range of staff, students and other stakeholders.
3. The PRG then writes its own report. The Unit is given the chance to correct possible factual errors before the Peer Group Report (PGR) is finalised.
4. The Unit produces a draft Quality Improvement Plan (QulP) in response to the various issues and findings of the SAR and PGR Reports.
5. The PGR and the Unit draft QulP are considered by the Quality Promotion Committee.
6. The draft QulP is discussed in a meeting between the Unit, members of the Peer Group, the Director of Quality Promotion and Senior Management. The University's responses are written into the QulP, and the result is the finalised QulP.
7. A summary of the PRG Report, the QulP and the Executive Response is sent to the Governing Authority of the University, who will approve publication in a manner that they see fit.

This document is the report referred to in Step 3 above

The Peer Review Group should note that, in agreement with the other Irish universities, following approval by the Governing Authority, of the Summary document referred to in Step 7 above, the document will be published on the university website.

Following publication of the above-mentioned summary document, the Quality Promotion Unit will also make the following publicly accessible on the QPU website:

- The *full text* of the Peer Review Group Report (the document referred to in step 3 above)
- The *full text* of the School Quality Improvement Plan (the document referred to in step 6 above)

The Review Group should bear in mind therefore that their report will become a public document. However, as the Self-Assessment Document remains confidential (to the School, the QPU, the Peer Review Group and the Senior Officers), the PRG Report should be capable of being read as a stand-alone document.

The Review Group Report (and the Self-Assessment Report) will be used by the Unit as a start point for the preparation of the Quality Improvement Plan. The recommendations in the above reports will form the basis for any funding submissions to the University and the Higher Education Authority for quality improvement. It is therefore vital that all reports contain clear recommendations for improvement.

Format of the Review Group Report

(throughout this documentation, the term Unit is used to refer to the organisational structure under review, be it a Faculty, School, or Centre)

1. The Unit

Location of the Unit

The main core of the NICB is located in a new, purpose built, building (block G), funded under PRTL cycle 3, between the School of Nursing building, block H and the science building, Block X. This building has a floor space of ~ 3,200 m². Internal DCU collaborating researchers from other schools and faculties are located in the School of Chemical Sciences, School of Biotechnology, SALIS and the School of Computing. External academic collaborations exist with NUI Maynooth and IT Tallaght. External clinical collaborations exist with various hospitals including St. Vincent's University Hospital, Beaumont Hospital and the Eye and Ear Hospital

Staff

Category of Staff	Number
Permanent Senior Research Staff (above Postdoctoral level)	1
Senior Researchers	6
Postdoctoral Fellows	16
Research Postgraduates - Total	29
<u>Breakdown by School in which they are registered:</u>	
Dublin City University	17
NUI Maynooth	3
IT Tallaght, Dublin	5
Members of NICB who are Teaching Staff (DCU, NUIM, ITT)	12
Other Staff : Technicians	7
Admin. Support	5

Product / Processes

The National Institute for Cellular Biotechnology is dedicated to research on the cellular and molecular basis of life processes, with particular emphasis on applying this knowledge to better diagnosis and treatment of cancer, diabetes and microbial diseases and to the development of more efficient and affordable biopharmaceutical production processes.

As part of this mission the institute is involved in the education of postgraduate students, the mentoring of postdoctoral fellows and some limited undergraduate module delivery. The institute has collaborations with a number of external academic, clinical and industrial partners, and has collaborative links with a number of schools across DCU both within and external to the Faculty of Science and Health.

In addition to these activities the institute produces scientific output via the normal channels of published journal articles, conference presentations, seminars etc. Another aspect of the institute's activities is its involvement in the initiation, development and implementation of clinical trials and studies. It is now part of the Irish Clinical Oncology Research Group (ICORG - the national clinical trials body in Ireland) and is currently involved in a number of trials under the *aegis* of this body in collaboration with other partners. The NICB also has a track record of interaction with the biotechnology industry which has led, *inter alia*, to the spin-off campus company, Archport Ltd.

The performance overview of the centre for the past 4 years is listed in the table below:

Performance Indicators	2003	2004	2005	2006*	TOTAL
Refereed Papers	76	72	66	73	287
Conference Proceedings	61	45	97	69	272
Books / Chapters	4	4	3	4	15
Invited Reviews	5	4	6	3	18
Invited Lectures	4	6	5	3	18
Ph.D. Graduates	0	5	5	6	16
M.Sc. Graduates	0	2	2	0	4

*Figures for Q3 and Q4 2006 are estimates

2. The Self-Assessment Process

The Co-ordinating Committee

Donnacha O'Driscoll (Chair)	Paul Dowling	Annemarie Larkin	Norma O'Donovan
Niall Barron	Patrick Gammell	Paula Meleady	Lorraine O'Driscoll
Mairead Callan	Michael Henry	Verena Murphy	Finbarr O'Sullivan
Padraig Doolan	Joanne Keenan	Robert O'Connor	Derek Walsh

Methodology Adopted

Number of Committee meetings

The Committee met on a regular basis over a three-week period to plan out and agree to the format of the review. Primary issues agreed to were: the lay out of questionnaires, selection of focus group topics and focus group makeup, format of Centre away day discussions, drafting list of programmes and projects to be included in the report.

The implementation of the quality review plan was overseen by the Committee Chairperson, who referred to the Committee by meeting and email to review various reports and drafts of this final report.

Allocation of Tasks

The Committee selected a convenor for each focus group, who was also responsible for drafting up a summary report. The Committee also allocated the reporting on each project area to specific Senior Scientists. The Committee Chairperson, with the support of the Centre Administrative Staff, compiled all data from focus and project reports and questionnaire feedbacks. The Chairperson drafted the final report, which was reviewed, for comment and correction, by the Co-ordination Committee.

Communication with Staff not on the Co-ordinating Committee

There were a number of channels through which all Centre stake holders could feed their comments into the quality review process including questionnaires, focus groups, Staff away day participation and an open invitation to all to contact the Chairperson directly with comments.

3. The Peer Review Group Process

The Review Group

Chair – Professor Ralph de Vere White Director UC Davis Cancer Centre University of California
Dr. Brendan Hughes Director of Development Wyeth Biotech Grange Castle Dublin 22
Dr. Michael Moriarty Consultant Oncologist St. Luke's Hospital/St. Vincent's University Hospital.
Dr. Kay Mac Keogh Senior Lecturer Oscail – National Distance Education Centre Dublin City University
Rapporteur - Dr. Enda McGlynn Senior Lecturer School of Physical Sciences Dublin City University

Site Visit Programme

The initial programme for the site visit was adhered to with only relatively minor deviations (i.e. postponement of the tour of the NICB facilities on 22nd March, in favour of increased dialogue with NICB staff, to a condensed walk-around on the afternoon of 23rd March). The revised schedule is shown below.

Timetable for the Review Visit to National Institute for Cellular Biotechnology (2007)

Day 1 (Wednesday 21st March 2007)

Arrival of Peer Review Group

14.00 – 15.00 Meeting of members of the Peer Review Group, Briefing by Director of Quality Promotion

15.00 – 16.30 Consideration of Self-Assessment Report with the National Institute for Cellular Biotechnology co-ordination committee (see below) with a 45 min overview presentation from NICB Director Prof. Martin Clynes & Dr. Donnacha O'Driscoll

16.30 – 19.00 Group agrees final work schedule and assignment of tasks for the following two days

19.30 – Dinner for members of the Peer Review Group, Unit Quality Co-ordinating Committee and Director of Quality Promotion

Day 2 (Thursday, 22nd March 2007)

09.00 – 10.15 Meeting with Senior Management Group

10.30 – 11.30 Meeting with Prof. Malcolm Smyth (Dean – Faculty of Science & Health)

11.30 – 12.30 Meeting with Senior Researchers

12.30 – 12.50 Meeting with Postdocs

12.50 – 13.50 Brief Discussion with the Director of Quality Promotion and lunch for members of Peer Review Group

13.50 – 14.10 Meeting with Research Assistants and Administration

14.10 – 14.40 Meeting with Post-Graduate Students

14.40 – 15.10 Meeting with Internal Partners

15.10 – 15.40 Meeting with DCU departments

15.40 – 16.40 Discussion over Tea and Coffee with External Stakeholders

16.40 – 19.15 PRG discussions in DCU in lieu of private working dinner

Day 3 (Friday, 2nd March 2007)

09.00 – 10.00 Meeting of Peer Review Group to review previous day's findings and prepare for 3rd day of visit

10.15 – 11.00 Meeting with Head of Unit to clarify any outstanding issues

11.30 – 11.45 Brief Discussion with the Director of Quality Promotion

11.45 – 14.45 Preparation of 1st Draft of Final Report

14.45 – 15.00 Brief walk around NICB facility

15.00 – 15.30 Exit presentation to all staff of the Unit by the Chair of the Peer Review Group, Professor Ralph de Vere White, and Dr. Brendan Hughes

Methodology

The review process consisted of three discrete activities:

1. Familiarisation with the self-assessment report provided by the School in advance of the site visit.
2. The comprehensive site visit by the Peer Review Group (PRG) conducted over a period of two and a half days, to review and validate the details of the self-assessment report, finishing with a presentation of the preliminary findings and recommendations by the PRG
3. The preparation and delivery of this review report documenting the findings and making recommendations for future development.

Schedule of Activity

On the first day of the review visit, the PRG met initially for a briefing with the Director of Quality Promotion Unit, Dr. Heinz Lechleiter, who briefed them on the nature of the visit and the duties, expectations etc. During this meeting the group learned the sad news that Prof. Martin Clynes' mother had passed away earlier in the week and that the removal and funeral arrangements were scheduled for Wednesday afternoon and Thursday, respectively. This necessitated some minor timetable alterations but was handled smoothly by the director of the QPU and the NICB centre manager, Dr. Donnacha O'Driscoll.

The PRG met initially to consider the Self-Assessment Report with the National Institute for Cellular Biotechnology co-ordination committee which included a 45 minute overview presentation from NICB Director Prof. Martin Clynes initially (who had to leave for the personal reasons outlined above) and Dr. Donnacha O'Driscoll subsequently. During this period the PRG had an opportunity to ask preliminary questions and indicate to the group the likely directions that subsequent meetings would take and issues that would be likely to be discussed. Following this meeting the PRG met privately to discuss task allocation for subsequent days and also initial views of the SAR. There was a strong consensus that the review could be best guided by consideration of the Structure, Strategy & Focus (SSF) of the NICB. This SSF approach proved of great use in subsequent days and was ultimately instrumental in framing the recommendations. The PRG agreed not to allocate specific lines of questioning among the members in advance of the meetings. This more flexible approach worked well, as the PRG members were able to elicit a more comprehensive overview from the responses and interaction in the group and individual meetings. The group then had dinner with members of the Peer Review Group, Unit Quality Co-ordinating Committee and the Director of Quality Promotion.

The second day of the review opened with a meeting with the senior management of the university (including President, Deputy President, Secretary, Vice President for Research, Vice President for Learning Innovation, Director of QPU, Director of Human Resources and Director of Finance). This was followed by a meeting with the Dean of the Faculty of Science & Health, Prof. Malcolm Smyth. These meetings allowed the PRG to ascertain the position of the NICB within DCU and the Faculty of Science & Health and the views of senior management on NICB position and development going forward.

Issues which were discussed in these meetings included the structure, strategy, future development and sustainability of NICB and the interactions and integration of NICB within the DCU and Faculty of Science & Health structures. In both these meetings it was made clear that DCU and the Faculty of Science & Health see the NICB as a key element of its research in the biotech space, and see it as an important and valuable resource. The senior

management clearly appreciates NICB distinctive situation vis-à-vis other centers but is anxious to further integrate NICB in the DCU campus.

The senior management made it clear that they were very keen to have a detailed strategic plan from the NICB and this would enable them to better support the Institute. The senior management also made it clear that they would welcome additional input into teaching in the University from NICB. The senior management stated that they wanted to make sure that NICB senior staff were not disadvantaged in gaining access to key University bodies and would follow up to understand where any perceived disadvantages might lie.

These meetings were followed by meetings with (in the following order): NICB senior researchers, NICB postdocs, NICB research assistants and admin staff and NICB postgrads. In many respects these meetings, particularly with the senior researchers, provided a complementary perspective to that of the DCU and Faculty of Science & Health management. In the case of the meeting with the senior researchers some initial confusion was caused by the fact that in various places in the SAR the number of senior researchers is listed as 6, while in the scheduled meetings with these senior researchers there are 10 names, and ~ 12 people attended the meeting from the NICB staff. This was later explained as a consequence of the NICB pay scales where a senior research officer technically is a scale inherited from Enterprise Ireland which 6 of the researchers present at the meeting are “on”, while other “scientifically” senior staff not on this pay scale also attended this meeting. However the PRG felt that it was not clear what the criteria for senior researcher status is, if and how internal promotions are made etc. and also how clearly the hierarchical structure is publicised among the NICB members.

Issues which were clearly of importance in the meetings with NICB staff referred to above were centred on the deep concerns of staff (particularly senior researchers) over their job security as PRTL funding is coming to an end in the next 12 month period. Other serious concerns raised included the view of NICB core staff over their place within DCU, in terms of parity of esteem with academic staff of equivalent experience (and rights of supervision of postgrads), rights of representation on university and faculty committees, voting rights in staff elections to various internal bodies and related matters. These concerns clearly cause significant concern and anxiety to the NICB staff. Among the major positives which emerged where the strong impression that the NICB is a good and supportive working environment, that the scientific equipment base is very good and attractive for potential students, postdocs etc. The PRG asked most sections of the NICB staff about the three SSF topics, with due consideration of the nature of the particular group.

In all cases (i.e. meetings with DCU/Faculty of Science & Health management and NICB staff) the meetings were frank and open discussions, with a good dialogue during questions and answers and an obvious positive engagement of all parties in the review process.

Following these meetings the PRG met with a broad range of internal (DCU) NICB partners under the PRTL banner, including representatives from the Schools of Computing, Biotechnology, Chemical Sciences and Communications. This meeting was a less informative one. The various attendees, while clearly involved with the NICB under the PRTL funding banner, appeared less sure of the nature and extent of their collaborative involvement in the future. However, it was also notable that the School of Chemical Sciences representative was very positive about his interaction with NICB and potential for the future and the service NICB provided.

The PRG then met with representatives from DCU departments including Estates, the Library and the Educational Trust. The clear impression from this meeting is that the NICB staff are extremely pleasant and nice people to interact with from the broader campus perspective, showing consideration and patience in their dealing with central services. More detailed discussions with the representative from the Educational Trust seemed to indicate that there might be scope for increased interaction between NICB and the Educational Trust to explore mechanisms to generate funding streams. It was a pity that a representative from the central Computer Services Department was not present as IT issues related to website maintenance and updating were identified as a topic of concern in the NICB SAR, a view shared by the PRG.

Finally on day two, the PRG met with external stakeholders, including representatives from collaborators in IT Tallaght, NUI Maynooth, St. Vincent's Hospital, the IDA and ICORG and the chair of the NICB Board. This was a resoundingly positive end to the day. Without exception the external collaborators spoke in glowing terms of their interaction with NICB as hugely enabling in their research (in terms of providing facilities, services, clinical trials, translational research etc.) and very positive in all other aspects of their interactions. It is clear that the NICB, and the mentoring of the director, Prof. Clynes, has been instrumental in building significant research activity in other campuses across Ireland.

This meeting demonstrated that the NICB and its Director have carved out an important role in Translational Research, including a role as the major research centre involved with ICORG (the national clinical trials body). The PRG considers that this is a potential key focus area.

The Chair of the NICB board discussed his role as a liaison role in facilitating clinical collaboration rather than as part of the governance structure of NICB. This provided a useful viewpoint for the PRG.

The final day's main meeting was with the institute director, Prof. Martin Clynes. This was a very valuable meeting as it enabled the PRG to dig deeper on the background of many of the issues raised by NICB staff and to discuss the issues which arose during the meetings with DCU and Faculty of Science & Health management. The NICB director engaged in a very open and positive way, discussing the various issues. It was clear that the same concerns are apparent to him as to the NICB staff. The PRG again asked the

director about the three SSF topics and there was extended discussion on these points and also on the operation of NICB management and advisory boards.

Largely speaking the timetable was adequate. The minor revisions due to postponement of the tour and the inevitable alterations necessitated by the funeral and other arrangements commented on above were handled smoothly and efficiently.

View of the Self-Assessment Report

The PRG view of the SAR was that it provided the basic outline information on the NICB. The detailed working of the NICB was not always as clear as it may/should have been, e.g. the confusion over the number of senior researchers and the structure surrounding this, referred to on page 9 above.

The nature and importance of the scientific work being undertaken was clearly conveyed and some extracts from recent reviews by funding bodies were also included. The external collaborations (academic, clinical and industrial) of the NICB were listed and are extensive, though these were not prioritised in terms of the current/previous scale and activity. This was particularly the case for industry where a lengthy list of names was provided but only one collaboration appeared to be active, in the sense that concrete information/evidence of funding levels, patents or other metrics was given. The PRG therefore could not judge the level of activity in the other industrial collaborations listed.

The PRG did feel that as a self-assessment report it provided less assessment in a metric formulation than would be necessary to accurately judge the output (particularly the published output) in the national and international context. For example, indicators like h-indices of senior researchers, impact factors of journals published in, citations, trends of publication number and quality were not shown.

The SAR gave a list of recent highlight scientific/collaborative achievements. The SAR described various outreach activities under the SFI STARS and UREKA programmes, school outreach, and media interaction all of which speak to a genuine commitment to public awareness and community activities. The institute director has an established profile in the Irish scientific media but the SAR indicated that a number of senior researchers and the centre manager also have made significant inputs from time to time. However the media interactions appeared reactive and sporadic, rather than a coordinated and planned activity.

There were also sections on the undergraduate/taught postgrad teaching activities, which are limited at present.

The funding situation and the NICB strategic plan in response to what appears to be imminent and significant difficulties formed a major part of the SAR, both

in column inches and in the emphasis of the report. However the actual details of the funding trajectory over the past number of years was not clear from the SAR. Dr. O'Driscoll responded promptly to this concern by providing financial data for the PRG. The PRG also felt that the strategic plan was not specific enough in its response in terms of costings, sustainability planning, structure etc. This formed a part of many of the PRG discussions. The SAR placed an emphasis on 4 key aspects in its view of the university interaction. In the view of the PRG many of these are interrelated. These aspects are – life of centre/institute contracts for key senior staff, parity of esteem of NICB senior staff within DCU, school-like status of NICB for postgrad registration independent of existing schools (i.e. School of Biotechnology) and appropriate representation on university committees.

The PRG felt that the SAR did not take sufficient cognisance of the change in the nature of funding in Ireland and the challenges and opportunities resulting from this altered landscape. Once again this drove many aspects of the discussions during the review visit, with an emphasis on transitioning from a survival mode to a mode of emphasis on planning, focus and excellence.

4. Findings of the Review Group

Background and Context

Strengths:

- Excellent research equipment and facilities including new building
- History of adaptability and survival in difficult funding times
- Excellent, committed, loyal and enthusiastic staff
- Commitment of DCU senior management staff to long-term success of centre
- Strong commitment and support from a wide network of external industrial, academic and clinical partners
- Enthusiastic and committed Director
- Have established strong clinical links

Weaknesses:

- The lack of a detailed strategic response and plan for a changing academic, scientific research and funding environment.

Opportunities:

- A range of new funding opportunities in a changing research environment in Ireland

Challenges:

- To develop in an appropriate manner going forward to maximise NICB involvement and benefit from opportunities which are emerging in the new funding and research landscape

Organisation and Management

Strengths:

- Strong group of loyal and committed staff

Weaknesses:

- Need for greater spreading of organisational and management load
- Over dependence and over loading of one person in the structure
- Need for more organisational and management structures
- Need for greater involvement/participation in the organisation and management of the centre from all members at all levels
- Lack of strong engagement of management and advisory boards

Opportunities:

- Number of experienced senior people in NICB ready for more involvement in centre organisation, management and direction
- Opportunity to lessen some of the burdens on director to facilitate his greater involvement in developing linkages

Challenges:

- Development of appropriate management structure to leverage the full benefit of experienced senior staff and to involve all staff in the centre organisation and management as appropriate to their position
- Sourcing appropriate funding streams with the DCU senior management and other DCU stakeholders to help provide stable funding for senior NICB staff

Research Activities

Strengths:

- Strengths in key areas of importance to DCU and Ireland Inc.
- Range of advanced technologies and facilities
- Strengths particularly evident in translational research
- Wide range of expertise in topics from cancer to bioprocess

Weaknesses:

- The metrics in terms of publications and impact factor do not reflect the high degree of activity in the centre or the ability and commitment of the researchers
- No obviously clear process for identifying new/continuing research themes and personnel in a focussed and strategic way
- No obviously clear process for assessing performances of different research themes
- Lack of clear articulation of existing NICB postgraduate supervision and development strategy to all the postgraduate students

Opportunities:

- Strong opportunities in translational research
- Promote recruitment of new postgraduates from outside DCU based on excellence of research facilities

Challenges:

- The need to identify the optimum balance in the research portfolio between hypothesis-driven research and shared resource activity
- Need to identify optimum balance between breadth of activity and focus and determine the optimum range of topics for individual researchers
- The need for sufficient technical and financial resources to support research base and equipment base

Partners and Collaborators

Strengths:

- Very strong support and loyalty from all external collaborators
- NICB obviously fulfils key needs for a number of partners, including industrial partners, hospitals and collaborating external academic institutions

Weaknesses:

- Need for stronger internal partnering and collaboration
- Heavy reliance on one industrial partner

Opportunities:

- Opportunities to integrate more extensively with partners on campus and leverage new funding opportunities
- Opportunities to develop more industrial partners

Challenges:

- Need to formalise certain major collaborations and services
- Develop new internal collaborations in DCU

Teaching and Training

Strengths:

- Strong record in pre- and post-doctoral training
- Number of capable teachers and mentors
- Good relationships exist between supervisors and postgrads

Weaknesses:

- Potential that NICB may miss opportunities in undergrad and taught postgraduate programmes which would benefit both NICB & DCU

Opportunities:

- Undergrad and taught postgrad teaching can provide a route towards more secure funding going forward
- Teaching at undergrad and taught postgrad level can enable better collaboration with internal partners and opportunities for mutual enrichment in teaching and training
- Development of graduate schools for 4th level education
- SFI Stokes' academic positions offer an opportunity
- Use elearning to reach a global market for taught postgraduate programmes in collaboration with e.g. Oscail

Challenges:

- Successful integration of wider teaching and training remit with existing high level of NICB research activity while maintaining research mission
- Successful partnering with internal DCU partners

Resources

Strengths:

- Strong director with outstanding national and international network
- Strong, deep well-established scientist base
- Excellent facility and technologies

Weaknesses:

- Gaps/uncertainty in technical and administrative support and continuity
- Continuing uncertainties in sustainable funding for senior researchers causes significant anxiety and potentially demotivation

Opportunities:

- Potential of national and international networking through director and senior scientists for increased funding opportunities and high impact science

Challenges:

- Sourcing appropriate funding streams with the DCU senior management and other DCU stakeholders to help provide stable funding for senior NICB staff
- Need to underpin equipment base and building with adequate maintenance and upgrade provision
- Suitable management structure to release director to manage high level strategy and networks

5. Recommendations for Improvement

- *P1: A recommendation that is important and requires urgent action.*
- *P2: A recommendation that is important, but can (or perhaps must) be addressed on a more extended time scale.*
- *P 3: A recommendation which merits serious consideration but which is not considered to be critical to the quality of the ongoing activities in the Unit.*

Additionally, the PRG should attempt to indicate the level(s) of the University where action is required:

- *A: Administrative Unit*
- *U: University Executive/Senior Management*

Where considered appropriate, action at multiple levels should be recommended: this should be considered as inclusive, indicating a need for co-ordinated, complementary actions at both the indicated levels. For instance: P1-A would indicate a recommendation that is important and requires urgent action at Unit level.

Recommendations

General

1 – NICB should be supported by DCU senior management as a key strategic asset of both local (DCU) and national importance. This will require support in a number of ways including but not limited to:

- DCU should provide ongoing operational funding to support the core admin functions of the centre, based on a revised NICB strategic plan and management structure
- DCU should enable the NICB transition to the next phase of development by providing bridging funding, based on a revised and detailed strategic plan, management structure and costings
- DCU should engage with NICB via the Educational Trust in an active way to seek funding streams for NICB
- DCU and Faculty of Science & Health senior management should engage with NICB to identify methods to provide security of funding and career structure for key NICB senior staff (related to points 8 & 9 below). Some of the more senior members of the research team (e.g. key section leaders) must feel assured of reasonable tenure.
- DCU should work within the national context to ensure appropriate career structures for all researchers
- DCU should ensure that NICB have appropriate representation on all relevant university committees either via the director or his nominee. In the light of impending developments related to formalising 4th level postgraduate education in Ireland it seems appropriate for example to have research centre directors sit on the Academic Council of the university. This representation on various committees should be agreed between both parties and would foster better communications between NICB and the wider university community

- The university should endeavour to identify and iron out any anomalies of treatment which exclude NICB staff from entitlements which equivalent staff in other units enjoy (e.g. voting rights in staff representative elections)

P1-U and FSH

Structure

2 – NICB management structure should evolve to meet scale of current and future developments. The institute should consider a structure involving associate director(s), programme managers etc.

P1-A

3 – NICB should set up an internal administrative structure to engage the entire NICB membership in a process to facilitate communication of and participation in NICB operations and strategy

P1-A

4 – NICB should formalise many of its major external collaborations and service research interactions via MoUs to plan and manage its operations. This planning should also include the appropriate use of NICB technology & equipment for service research, managed by research assistants, as a sustainable funding stream.

P3-A

5 – NICB should formalise its management and advisory boards, review their membership, and have regular meetings to fully engage them in the institute strategy and operations. The reports generated from such meetings should be forwarded to DCU management at both faculty and university level.

P1-A

Strategy

6 – NICB should develop a revised strategic plan encompassing research agenda and funding models, addressing the themes of structure, strategy and focus, and the peer review group comments

P1-A

7 - NICB and DCU management should increase the level of formal engagement in the strategic direction of the NICB. This is closely related to point 5 above

P2-U & A

8 – Development of innovative pathways for enhancing existing and building new internal collaborations with other DCU units and schools. This could be helped by e.g. internal secondments and sabbaticals (in both directions, NICB ↔ school)

P2-A

9 – Development of a formalised teaching strategy and input into such activity with cognate schools (e.g. Biotechnology, Chemical Sciences) within the Faculty of Science & Health framework. This could include e.g. graduate schools (we note that NICB have made initial steps in this process), taught M.Sc. programmes (e.g. using elearning approaches in cooperation with Oscail), undergraduate teaching, SFI Stokes' academic appointments. This is related to recommendation 1 above.

P2-A (and FSH)

Focus

10 – Develop strategic directions and appropriate metrics for the NICB research portfolio. This should involve a consideration of the balance of and distinction between service research and hypothesis driven research, the breadth of focus areas in which excellence can be achieved etc.

P2-A