



University Senate TRANSMITTAL FORM

Senate Document #:	10-11-08
PCC ID #:	10001
Title:	Reassign the Units and Programs of the College of Chemical and Life Sciences to the College of Computer, Mathematical, and Physical Sciences
Presenter:	David Salness, Chair, Senate Programs, Curricula, and Courses Committee
Date of SEC Review:	August 31, 2010
Date of Senate Review:	September 16, 2010
Voting (highlight one):	<ol style="list-style-type: none"> 1. On resolutions or recommendations one by one, or 2. In a single vote 3. To endorse entire report
Statement of Issue:	<p>This proposal is to bring together two strong colleges, Chemical and Life Sciences (CLFS) and Computer, Mathematical, and Physical Sciences (CMPS), in order to enhance partnerships and possibilities for new collaborations in research and education. Scientific activities that cross the boundaries between traditional disciplines are increasing rapidly, and combining these two colleges has the potential to enhance opportunities for new research collaborations and encourage the development of innovative new education programs at both the graduate and undergraduate levels. By combining these two colleges, the University enhances its ability to attract excellent faculty and leadership, as well as more federal, foundation, and private funding.</p> <p>The integration of the two colleges calls for a multi-step process. This proposal concerns the first step: the reassignment of the four CLFS academic departments (Biology, Cell Biology and Molecular Genetics, Chemistry and Biochemistry, and Entomology), one research institute (the Maryland Pathogen Research Institute), and all CLFS academic programs to CMPS. No changes to academic programs are expected as part of the integration: any future changes to academic programs will follow the normal PCC review process. There are also no changes to</p>

	<p>faculty departmental affiliations or appointments With the exception of one fewer dean and one fewer associate dean (both vacant CLFS positions that will not be filled), no reductions in staff lines are anticipated as a result of the integration, although staff reassignments within the new college may be considered.</p> <p>The second step of the integration consists of additional actions that are not part of this proposal. These actions are as follows: (1) approval of a new name for CMPS; (2) the review of changes to the Plan of Organization and the Appointments, Promotion and Tenure (APT) policy, which will be submitted through the appropriate Senate processes for review; (3) modification of the University’s APT policy to reflect the reduced number of large colleges; and (4) the discontinuance of the College of Chemical and Life Sciences.</p> <p>A group of faculty brought the idea of integrating the activities and faculty of CLFS and CMPS to the Provost during the Fall 2009 semester. To explore this possibility, the Provost met with the deans of the two colleges and consulted twice with the each college’s leadership team, who conducted their own consultations through departmental meetings and individual discussions. All faculty and staff in CLFS were invited to an open forum. In mid-April 2010, the CLFS faculty and staff voted on the transfer of their units and programs into CMPS with its current structure, with 74% of the 210 votes cast in favor of the transfer. In May 2010, CMPS faculty and staff voted to accept CLFS units into CMPS with 84% of the 342 votes in favor. The CMPS faculty and staff also approved adding the current CLFS units to the college’s Plan of Organization, and also approved revising the composition of the APT committee to include representation from the current CLFS departments. Undergraduate and graduate students for both colleges were invited to an open meeting and asked to vote on the transfer, with a majority of students from both colleges, at both the undergraduate and graduate levels, voting in favor of the reassignment.</p> <p>The Academic Planning Advisory Committee (APAC) held two open meetings in August, 2010, for members of the colleges to discuss the proposal. At its August 23, 2010 meeting, APAC recommended to the Provost to bring the proposal forward to the Senate.</p>
Relevant Policy # & URL:	

Recommendation:	The Senate Committee on Programs, Curricula, and Courses recommends that the Senate approve this reassignment of CLFS programs to CMPS.
Committee Work:	The Committee considered the proposal at its meeting on August 27, 2010. Betsy Beise, Associate Provost for Academic Planning and Programs, presented the proposal to the committee and responded to questions.
Alternatives:	The Senate could decline to approve the proposed integration of the two colleges.
Risks:	If the Senate does not approve the proposed college integration, the University will lose an opportunity to create a stronger collaborative environment for these related academic units.
Financial Implications:	There are no significant financial implications with this proposal.
Further Approvals Required: <i>(*Important for PCC Items)</i>	If the Senate approves these proposals, they would still require further approval by the President and Chancellor.

**THE UNIVERSITY OF MARYLAND, COLLEGE PARK
PROGRAM/CURRICULUM/UNIT PROPOSAL**

- Please email the rest of the proposal as an MSWord attachment to pcc-submissions@umd.edu.

PCC LOG NO.

10001

- Please submit the signed form to the Office of the Associate Provost for Academic Planning and Programs, 1119 Main Administration Building, Campus.

College/School:

College/School Unit Code-First 8 digits:

Unit Codes can be found at: https://hypprod.umd.edu/Html_Reports/units.htm

Department/Program:

Department/Program Unit code-Last 7 digits:

Type of Action (choose one):

- | | |
|---|---|
| <input type="checkbox"/> Curriculum change (including informal specializations) | <input type="checkbox"/> <i>New academic degree/award program</i> |
| <input type="checkbox"/> <i>Renaming of program or formal Area of Concentration</i> | <input type="checkbox"/> New Professional Studies award iteration |
| <input type="checkbox"/> <i>Addition/deletion of formal Area of Concentration</i> | <input type="checkbox"/> New Minor |
| <input type="checkbox"/> <i>Suspend/delete program</i> | <input checked="" type="checkbox"/> Other |

Italics indicate that the proposed program action must be presented to the full University Senate for consideration.

Summary of Proposed Action:

Reassign the units and programs of the College of Chemical and Life Sciences (CLFS) to the College of Computer, Mathematical and Physical Sciences (CMPS). This is the first step of a series of processes to integrate the two colleges, which will enhance partnerships and possibilities for new collaborations in research and education. No changes to programs or to the composition of any of the units is planned as part of this process. All units will operate together under CMPS's current Plan of Organization and its APT policies.

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APPROVAL SIGNATURES - Please print name, sign, and date. Use additional lines for multi-unit programs.

1. Department Committee Chair N/A _____
2. Department Chair N/A _____
3. College/School PCC Chair N/A _____
4. Dean N/A _____
5. Dean of the Graduate School (if required) _____
6. Chair, Senate PCC David Galness _____
7. University Senate Chair (if required) _____
8. Senior Vice President for Academic Affairs & Provost _____

Proposal to Reassign the Units and Programs of the College of
Chemical and Life Sciences to the
College of Computer, Mathematical and Physical Sciences
July 12, 2010

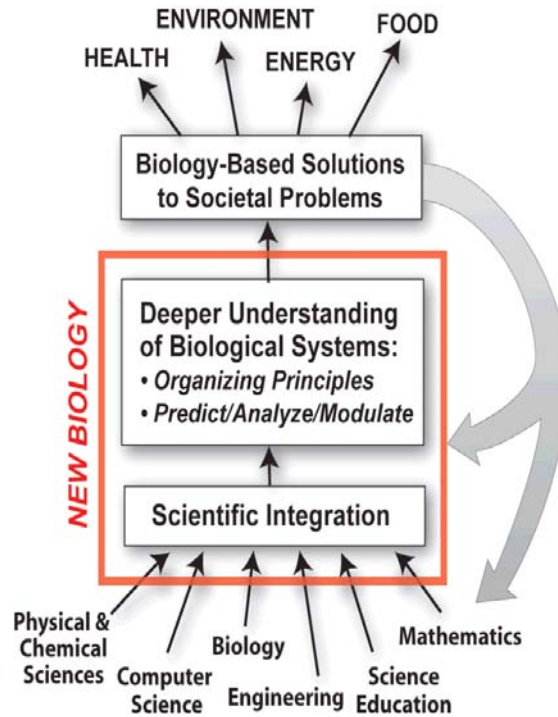
Introduction

This proposal outlines a strategy for bringing together two strong colleges, Chemical and Life Sciences (CLFS) and Computer, Mathematical and Physical Sciences (CMPS) to enhance partnerships and possibilities for new collaborations in research and education. In order to move forward in a timely fashion, and to take advantage of unique circumstances, the first step in this process will be to reassign the CLFS units and programs to CMPS. In May 2010, faculty and staff in the units of both colleges voted overwhelmingly to support this initiative. There is broad agreement that the current Plan of Organization of CMPS, along with its APT policy, will serve well as the starting point for the new organization, with only the minimal changes required to reflect the increased number of departments in the enhanced college. Once the units are reassigned, the college will be renamed to reflect the new combination of disciplines. The remainder of this document presents the intellectual justification for the integration, the process leading to this plan, and the subsequent steps that will be taken should this reassignment be supported by the University Senate.

Intellectual Justification

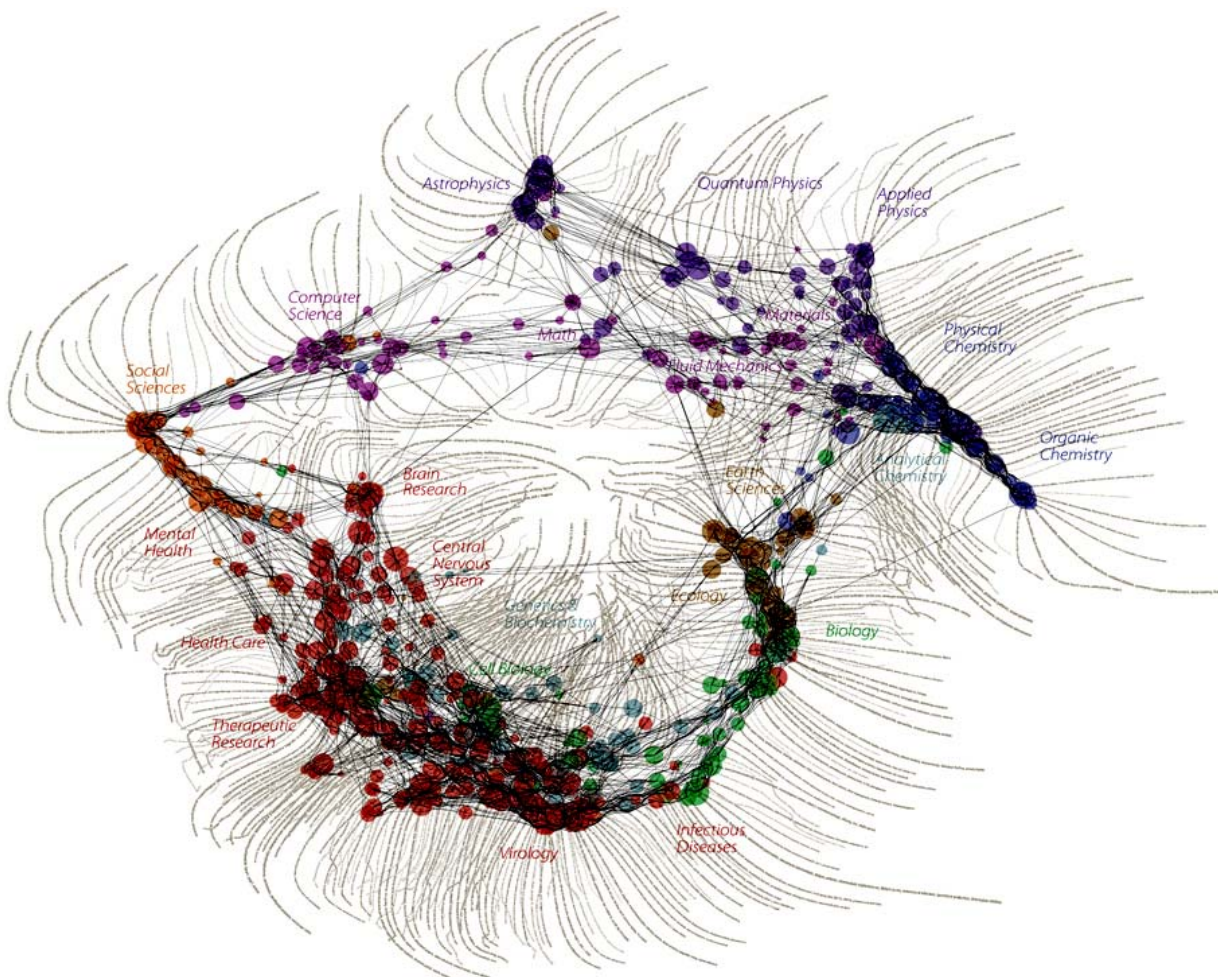
Scientific activities that cross the boundaries between traditional disciplines are increasing rapidly, resulting in the need for expertise that is split between two of the natural science colleges on the College Park Campus, CLFS and CMPS. While collaborations across college boundaries are possible, there is widespread agreement among members of all departments in CLFS and CMPS that unification into a single college has the potential to enhance significantly opportunities for new research collaborations and provide opportunities for development of innovative new education programs at both the graduate and undergraduate levels. An administrative arrangement where all or most of the natural sciences reside in one college is, in fact, the norm among peer institutions.

A 2009 report produced jointly by the National Academies (National Academy of Sciences, National Academy of Engineering, Institute of Medicine, and National Research Council) (http://dels.nas.edu/dels/rpt_briefs/new_biology_final.pdf) illustrates the intellectual connections and potential impact that a better integration of the various scientific disciplines can have on finding solutions to key societal needs.



One example of an extraordinarily transformative collaboration between physical scientists, computer scientists, and biologists is the human genome project. In this case, scientists from these disciplines worked together not only to develop the technology and achieve a basic scientific goal, but also to chart pathways by which these fundamental advances would lead to societal benefits. This visionary initiative has produced significant results on a time scale that would have been unimaginable even a decade ago.

Columbia University computer scientist Bradford Paley and colleagues grouped about 800,000 scholarly papers into 23 broad areas of scientific inquiry from mental health to fluid mechanics, building the “Science’s Family Tree” shown below (Discover, June 2007). The bigger a node is on this network diagram, the more papers it contains. Black lines connect nodes containing the same papers; creating the structure of the diagram. These links show how similar scientific disciplines have come closer to one another. The diagram illustrates the level of interconnection that various science disciplines have already reached, and it is easy to imagine how increased cross-disciplinary work will connect them even further.



The integration of CLFS and CMPS brings together many of the science disciplines shown above into a single college, integrating the expertise of faculty and students in bioscience, physical science, earth and computer science, and mathematics. This powerful combination of complementary areas of expertise not only aligns well with current national scientific goals, it enhances the ability of the university to attract excellent faculty and leadership, as well as more federal, foundation, and private funding, to the new college. This, in turn, will generate increased support for students at all levels in research and education, as has been extensively discussed in recent NAS and HHMI reports [<http://www.nap.edu/html/bio2010/reportbrief.pdf>, http://www.hhmi.org/grants/pdf/08-209_AAMC-HHMI_report.pdf].

Recent examples that reflect the growth in partnerships between the two colleges are the relatively new Ph.D. program in Biophysics, the Center for Bioinformatics and Computational Biology, and the new alliance between the University of Maryland and the National Cancer Institute, which will enhance opportunities for new collaborations between researchers in the fields of cell biology, physics, mathematics, computer science, and engineering.

It is also anticipated that an integrated science college will take advantage of synergies across colleges, promoting joint research and educational activities with other colleges that advance both basic and applied scientific research. This includes interdisciplinary research and study in

such topics as the environment and sustainability, energy, biotechnology, and health and nutrition sciences. Current examples include the program in Neuroscience and Cognitive Science (NACS); the Maryland NanoCenter; the Marine, Estuarine, and Environmental Sciences Program (MEES); the University of Maryland Energy Research Center; the Maryland Pathogen Research Institute; and the new Institute for Biosciences and Biotechnology Research.

Comparison with Peer Institutions

While no national standard exists for the administrative organization of academic units, biological and physical sciences and mathematics commonly belong to the same organizational structure. Among our peers, Berkeley and UCLA each have a College of Letters and Sciences that includes all of the natural sciences¹, humanities, and social sciences. The life sciences and physical sciences are administered from separate divisions within the college. Michigan, UNC Chapel Hill, and Stanford² also have Colleges or Schools of Letters (or Arts) and Sciences, but they include a single Division of Natural Sciences. Illinois divides its College of Letters and Sciences only by academic departments, and Harvard does the same within its Graduate School of Arts and Sciences. None of these structures is quite like that of our campus, but all but the California schools have the natural sciences unified under one administrative “science” umbrella.

Once the CLFS departments and programs join CMPS, the resulting college will approximate the size of the College of Arts and Humanities in numbers of both tenure/tenure-track faculty and enrolled students.

Process Leading to This Proposal

A group of faculty first brought the idea of integrating the activities and faculty of CLFS and CMPS to the Provost during the Fall 2009 semester. To explore this possibility, the Provost first met with the deans of the two colleges. He then consulted twice with each of the leadership teams of each college, once before and once after the college leadership consulted with their own faculty, through department meetings and individual discussions. All faculty and staff in CLFS were invited to an open forum, and further advice was solicited through conversations and email exchanges with members of both colleges.

Significant support emerged for the intellectual merits of combining the natural sciences in one college. In order to move the discussion forward, a working group was established (see Appendix A) to further explore both the intellectual merits of the idea and the possibility of its implementation. This working group confirmed the strong support of the faculty and staff in both colleges. It also recommended that the integration of the two colleges take place as soon as possible in order 1) to take advantage of the unique opportunity presented by scheduled changes in leadership of the two colleges, and 2) to prepare appropriately for an external search in Fall

¹Berkeley’s Chemistry department resides in the College of Chemistry and includes the department of Chemical Engineering.

²Stanford has a separate School of Earth Sciences that includes Geological and Environmental Sciences and Geophysics.

2010 for a new dean of the combined college. Additional discussions throughout the spring semester with the leadership teams of the two colleges, the members of the working group, APAC, and with the University Senate leadership, resulted in the following proposed plan of action, to be carried out in two phases:

Step One, which is the subject of this proposal, constitutes the reassignment of the four CLFS academic departments (Biology, Cell Biology and Molecular Genetics, Chemistry and Biochemistry, and Entomology), one research institute (the Maryland Pathogen Research Institute), and all CLFS academic programs to CMPS. This requires that the CMPS Plan of Organization be amended to include all units on the list of the college's units, and that the college's APT policy be amended to provide for representation from all departments on the college APT committee. No changes to the principles or function of the APT or of the other committees specified in the CMPS plan of organization are proposed as part of this process. As discussed below, the CMPS community has approved the addition of the CLFS units, and the CMPS faculty have voted in favor of revising the composition of the APT committee to include representation from the CLFS departments.

In Step Two, separate action items will be submitted through appropriate University Senate processes for review of the changes to the Plan of Organization and the APT Policy, for approval of a new name for CMPS that reflects the full range of its disciplines after the reassignment, and for the eventual dissolving of CLFS once all the other steps are complete.

Because the University's policy on Appointment, Promotion, and Tenure refers explicitly to the College of Chemical and Life Sciences, and because the reassignment of CLFS units into CMPS reduces the number of "large" colleges on campus, the University's APT policy will also require revision. The Senate Committee on Faculty Affairs will be asked to consider the necessary revisions and present them to the Senate. This step should be completed by December, 2010, so that the new structure can be in place by the time the campus APT committee begins its work in January 2011.

Summary of the College Votes

In mid-April 2010, the CLFS faculty and staff voted on the transfer of their units and programs, unchanged, into CMPS with its current structure. Of the 210 votes cast, 155 were in favor (74%), 38 against, and 17 abstaining. Faculty votes were further sorted by department, with strong support in each department (between 75% and 100%).

In early May 2010, CMPS faculty and staff voted to accept the CLFS units into CMPS. Of the 342 votes cast, 287 were in favor (84%), 38 against, and 17 abstaining. The faculty and staff also approved the addition of the names of the current CLFS units to the college's Plan of Organization, and the CMPS faculty approved the revision of the composition of the APT committee to include representation from the current CLFS departments.

Undergraduate and graduate students from both colleges were invited to an open meeting on May 4, 2010, and then invited to vote electronically over a two-week period from May 12 to May 27. For CMPS students, this also constituted a vote to endorse the above changes to the

Plan of Organization. Of the 531 votes cast, 306 (58%) were in favor, 198 against, and 27 abstaining. Sorted by college and cohort (graduate and undergraduate), all four cohorts were majority in favor.

Impact on the Academic Programs and Student Services

In the short term, no changes in the academic programs of either college are anticipated as a direct result of this integration. Eventually, programs already at the interface between physical and life sciences (such as Biophysics) will likely grow in enrollment, and new cross-department programs or specializations will likely be considered. Cross-fertilization of the various specializations is one of the principal benefits of bringing the departments and programs of the two colleges together. Once the two colleges are fully integrated, program changes that reflect the changing world, as well as new relationships among faculty, are expected to occur. Any future changes to academic programs would be subject to the normal approval routes, including review at department, college, and university levels.

Prior to the completion of Step Two, it is expected that academic advising and other support programs for all students will also remain unchanged. For example, advising is provided within departments for most of the undergraduate programs in both colleges. Because the biology program is shared among three departments, advising for the first two years takes place at the college level. This structure is expected to continue for the near future.

Impact on Faculty and Staff

No changes to faculty departmental affiliations or appointments will occur as a direct result of this integration. Some individual faculty may wish to change their college affiliation to a college other than CMPS following the integration. If so, they will follow the existing campus procedures to request a change in tenure home (through the Office of Faculty Affairs). With the exception of one fewer dean and one fewer associate dean (the vacant associate dean slot in CLFS will not be filled at this time), no reductions in staff lines are anticipated as a result of the integration, although staff reassignments within the new college may be considered.

Financial Implications

There are not expected to be any significant financial implications resulting from the proposed reassignment. One-time resources will be required to reconfigure office space for the dean and college administration, to produce new print materials, and to update the college's web site. Some salary savings may result from fewer top-level administrators, but this likely will be offset by some staff having expanded oversight responsibilities that would warrant a change in job scope or title. Since the integrated college represents the same number of faculty, staff, students currently in the two colleges, the overall administrative load will not significantly change.

Organization of the Integrated College

The organization of CMPS immediately following the reassignment of CLFS units and programs is expected to be as follows. The ten department chairs and the six institute directors who

reported to the two deans will now report to the Dean of CMPS, as will three associate deans: one Associate Dean will handle Faculty Affairs, Graduate Education, and Research, and two Associate Deans will handle Undergraduate Education (including advising), one primarily responsible for the biological sciences program and the other responsible for the remaining programs. Administrative sections will provide dean's office support, budget and finance, facilities, development, communications, and information technology; section leaders will report either to the Dean or to the Director of Office Administration. Further organizational details will be determined following the unit reassignment.

While review of CMPS's Plan of Organization and APT Policy will be the subject of a separate Senate action, these documents are available for reference, including the necessary revisions for the unit reassignment, at the CMPS web site:

CMPS Plan of Organization:

<http://www.cmeps.umd.edu/pdfs/PLAN-OF-ORGANIZATION-amended.pdf>

CMPS APT Policy:

<http://www.cmeps.umd.edu/pdfs/apt-CMPSpolicies.pdf>

Summary of the steps required to complete the integration of the two colleges:

I. Reassignment of CLFS units and programs to CMPS (this proposal).

When complete, begin the search for a new dean, with a target start term of July 2011.

II. Completion of the integration:

a: Senate review and vote on the change to CMPS's Plan of Organization listing the ten academic departments and six research units.

b: Senate review and vote on the change to CMPS's APT Policy, providing for representation of all ten academic departments on the college APT committee.

c: Change the name of CMPS to reflect its new composition (to be proposed by the college and voted on by the Senate).

d. Modify the University's APT policy to reflect the reduced number of large colleges (should be completed by December, 2010, for the 2011 cycle of dossier reviews).

e. Discontinue the College of Chemical and Life Sciences.

Appendix A: Working Group to Evaluate the Proposed Integration of the Colleges of Chemical and Life Sciences and of Computer, Mathematical and Physical Sciences

A Working Group appointed with equal representation from CLFS and CMPS was charged by Provost Farvardin to discuss and evaluate the merits of the integration of the two colleges, to make recommendations to him concerning whether or not such integration should be implemented (and the time frame), and, if recommending integration, to make further recommendations regarding the process to be followed. The Working Group included:

Norma Andrews (Cell Biology and Molecular Genetics - CLFS)
Michael Brown (Geology - CMPS)
Larry Davis (Computer Science - CMPS)
Bonnie Dorr (Computer Science – Associate Dean, CMPS)
Mike Doyle (Chemistry and Biochemistry - CLFS)
Bob Infantino (Biology - Associate Dean, CLFS)
Bill Jeffery (Biology - CLFS)
Dean Kitchen (Assistant Dean - CMPS)
Rajarshi Roy (Physics; Director, Institute for Physical Sciences and Technology - CMPS)
Barbara Thorne (Entomology - Director BISI, CLFS)
Stuart Vogel (Astronomy - CMPS)
Jerry Wilkinson (Biology - CLFS)
Mahlon Straszheim (Associate Provost) Convener

The Provost expected that the members would receive considerable input from their colleagues so that the collective views of the two colleges would be represented.