

## **NATURAL SCIENCES RESEARCH ADVISORY COUNCILS**

WHEREAS, the Senate recognizes and welcomes the responsibility of the faculty to advise the Provost on the allocation of resources for support of research at Cornell, and

WHEREAS, the Senate nevertheless acknowledges that, when judged by a standard of return on investment, fundamental research is an inherently unpredictable enterprise not amenable to a priori selection of successful avenues of investigation, making it important to maintain a broad base of scientific research, and

WHEREAS, the Senate is aware that the various requests from faculty in the Natural Sciences for research-related expenditures of University funds may involve different magnitudes of expenditure and different deadlines for decision, and

WHEREAS, the advisory structure should clearly separate advocacy from dispassionate evaluation,

THEREFORE, BE IT RESOLVED, that the Senate proposes the establishment of the following Natural Sciences Research Advisory Councils for advising the central administration on investments in research in the natural sciences (engineering, mathematics, biological and physical sciences).

## **NATURAL SCIENCES RESEARCH ADVISORY COUNCILS**

The goal of the Natural Sciences Research Advisory Councils is to provide expert guidance from both global (external) and local perspectives that will help Cornell maintain its reputation as a leading teaching and research institution and ensure that Cornell utilizes its resources effectively and responsibly.

Two councils, a Research Advisory Committee and an External Advisory Council, will assist the decision-making process of the central administration. The Research Advisory Committee will provide an internal perspective on Cornell's politics and science, while the External Advisory Council will provide a global perspective on emerging areas of science and on natural sciences as a whole at Cornell.

The procedure for requesting funding from the Central Administration for research in natural sciences will begin with submissions of proposals directly to the administration. The administration will sort proposals into three categories (small, medium, and large) based primarily on the magnitude of the requested funding. Irrespective of their size, proposals that represent a major change of course in research at Cornell will be considered as "large". The administration will evaluate "small" proposals (e.g., bridging funds for a faculty member, etc.) without involvement of either Advisory Council, consistent with current practice. The administration will send "medium" proposals (e.g., start-up costs for a new faculty member, etc.) to the Research Advisory Committee for evaluation, which will recommend action to the Central Administration. The External Advisory Council will

evaluate “large” proposals (e.g., construction of a building, new scientific initiatives, a major shift in faculty lines, etc.) at a regularly scheduled annual meeting and recommend action to the administration. The recommendations of the External Advisory Council will be presented for discussion to the Faculty Senate by the Research Advisory Committee at the first Senate meeting following receipt of these recommendations. (A flow chart of the proposed advisory structure is shown in Figure 1, attached.)

After a period of two years, the Faculty Senate will evaluate the effectiveness of this advisory structure and decide whether to continue, modify, or discontinue the Natural Sciences Research Advisory Councils.

## **I. Research Advisory Committee**

Research Advisory Committee is composed of 10 faculty members appointed jointly by the administration and the Faculty Senate. Nominations will be solicited from faculty in the natural sciences and from the Research Council. The Research Advisory Committee will play strictly **advisory and organizational roles**. Members who have a direct interest in any proposal being considered will not take part in the voting on that proposal.

The Research Advisory Committee would:

- A. advise the administration on significant issues and proposals relating to the natural sciences that are not appropriate (either due to scale or urgency) to bring before the annual meeting of the External Council,
- B. advise the Provost on selection of External Advisory Council Members,
- C. organize the annual visit of the External Advisory Council, which would include hosting these members, organizing the presentation of proposals, and providing the External Advisory Council with perspective on the unique aspects of Cornell,
- D. present the recommendations of the External Advisory Council to the Faculty Senate at the first Senate meeting following receipt of such recommendations.

## **II. External Advisory Council**

An External Advisory Council of five individuals from outside of Cornell broadly representative of the areas of natural sciences that exist at Cornell will be appointed by the Provost with the advice of the Research Advisory Committee. The Council will provide a **global perspective** and **informed advice** on proposed research initiatives, and on critical and emerging areas of science and technology. Members of the Council will have had high level experience in science administration and/or directing science policy, or be distinguished scientists. As a panel they will:

- A. meet at yearly intervals to:
  - 1. evaluate proposals (based on both oral and written presentations)
  - 2. make written recommendations to the central administration

- B. provide unbiased judgment of whether proposed research initiatives represent *emerging areas of science* in which investments are likely to increase the eminence of Cornell in natural sciences, and whether it makes sense for Cornell to pursue,
- C. provide unbiased judgment of whether proposed research initiatives represent *critical areas of science* from a global and philosophical perspective.

### **Rationale**

The aim of the proposed structure is to ensure that the Provost has available the best possible advice when s/he makes the decisions to allocate Cornell's limited resources in the area of natural sciences. The issue is not whether or not the Provost will make these decisions; it is whether s/he will make them with or without the benefit of informed and considered advice.

This structure has little if any precedent at this level in academic institutions, and should give Cornell a strategic advantage in initiating innovative research critical to current and future global concerns.

The two advisory councils will mutually complement each other, mitigate the conflicts of interest concerns inherent in any internal committee of experts, and insure that both a global perspective and Cornell's traditions and realities are factored into the decision-making process. The involvement of the Research Advisory Committee with the annual visit of the External Advisory Council will help the latter group assess the probable impact of selected investments on other vital components of the Cornell research community, thereby protecting the prosperity of the whole natural sciences enterprise.

Presentation of the recommendations of the External Advisory Council to the Faculty Senate will generate constructive discussion in this diverse body, which may bring to light important issues not considered by either Advisory Council.

Establishment of Natural Sciences Research Advisory Councils for a two-year trial period may be a step in an evolutionary process. The trial period will allow clarification of issues such as the relationships between these Advisory Councils and other current or future committees or councils, as well as an evaluation of whether this advisory structure fulfills its intended purpose.

### **Examples of Possible Members of External Advisory Council**

**David Baltimore**, Nobel Laureate, President, Caltech,  
(<http://www.caltech.edu/president/index.html>).

**Tom Cech**, Nobel Laureate, National Academy of Sciences member, Department of Chemistry and Biochemistry, University of Colorado at Boulder, and Howard Hughes Medical Institute  
([http://beagle.colorado.edu/faculty/cech\\_95.html](http://beagle.colorado.edu/faculty/cech_95.html)).

**Phillip Griffiths**, Director of the Institute for Advanced Study.

**Henry Kendall**, Nobel Laureate, former President of the Union of Concerned Scientists.

**Donald Kennedy**, former President, Stanford University, currently Professor in the Department of Biological Sciences, Stanford University  
(<http://www.stanford.edu/home/stanford/history/leader.html#Kennedy>).

**Jeremy Knowles**, Dean of Harvard College, a Fellow of the Royal Society and a member of the National Academy.

**Neal Lane**, former Director of the National Science Foundation.

**Richard Lerner**, National Academy of Sciences member, Department of Chemistry, Scripps Research Institute (<http://www.scripps.edu>).

**Harold Varmus**, Nobel Laureate, Director, National Institutes of Health (<http://www.nih.gov/welcome/director/varbio.htm>).

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Adopted as amended by the Faculty Senate, April 15, 1998.