



UNIVERSITY OF WASHINGTON

*The Graduate School*

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February 22, 2001

To: Lee L. Huntsman  
Provost

From: Marsha L. Landolt  
Dean and Vice Provost

Re: Department of Genetics 10-year Review

*Summary and recommended action*

The Graduate School Council considered the review of the programs offered by the Department of Genetics at its meeting of November 2, 2000. Departmental and College representatives and review committee members participated in the meeting. The Council was impressed with the long and distinguished history of this Department, its present strengths and its very precarious future as a national leader. The Council calls attention to the critical needs of this outstanding Department while recommending the continuation of its programs. I concur with this recommendation.

The self-study, report of the review committee and the Department's response are attached.

*Background:*

The Department was last reviewed in 1992. The Department offers MS and PhD degrees. It consists of 10.5 faculty FTE, and approximately 40 graduate students. The department graduates about 2 MS and 7 PhDs annually. It contributes substantially to undergraduate instruction (ca. 8000 SCH/year, a tripling over the past decade) for students in the Colleges of Arts and Sciences (majors in Botany, Zoology and Biochemistry), College of Forest Resources, School of Ocean and Fishery Sciences, Nursing and Public Health and Community Medicine. The Department is innovative in its instructional methods, for example, involving (via the web) undergraduates directly in the analysis of data from genome projects. The faculty also actively involve undergraduates in research. The Department of Genetics is very highly regarded nationally, ranked number 3 (behind Harvard and Stanford) by US News and World Report in 1996. It has earned its reputation because of its pioneering work on the genetic analysis of model organisms, work that contributed hugely to our understanding of fundamental cellular mechanisms. The Department also has led in the application of mathematical tools to biologic data, particularly in the evaluation of evolutionary patterns. It houses a NIH training grant in genetics, which recently was renewed for its 7<sup>th</sup> consecutive 5-year funding cycle. Former graduate students of the Department now populate the faculties of outstanding departments of Genetics including those at Harvard, Stanford, Yale and Wisconsin. Six of its faculty have been

elected to the National Academy of Sciences, 3 to the Institute of Medicine and 4 are fellows of the American Association for the Advancement of Science. Three of its PhD graduates have been elected to the National Academy of Sciences. No other department at the University surpasses the international stature the Department of Genetics has earned in its field.

The graduate program resides in a department that is not only outstanding scientifically, but which also enjoys a high level of camaraderie. The Department has a very good record in graduate student diversity. Faculty and students cherish this culture. Students commented enthusiastically about the intense nurturing environment. Time to degree has been somewhat long. However, the Department has recently revised requirements to address this problem. The graduate program is highly sought, but the competition is gaining. Last year, only 6 of 20 offers to the graduate program were accepted – a reasonable record for most departments, but less than would be expected for one with a record as strong as this one's. The review committee recommended expanding the interaction with faculty in other departments as a means of presenting a broader range of research opportunities to prospective students. The Department has responded favorably to each of these suggestions. The review committee also recommended the addition of junior faculty (there is only one Assistant Professor on the current roster) to expand the number of laboratories actively involved in graduate student direction. As mentioned above, the Department has tripled its amount of undergraduate instruction in the past 10 years. It has done this by relying too heavily on postdoctoral fellows as instructors, a situation realized by the Department, but to which current faculty numbers limit a reply.

For all that it has accomplished, the future of the Department cannot be taken for granted. The review team stated in very strong terms that this Department is in serious jeopardy. It critically and immediately needs research space and is likely to flounder if space is not found. While the current Chair, Breck Byers, was complimented for the job he has done over the past 10 years, the review committee made a strong and irrefutable argument that the next chair must be from outside the University. The Department has been guided by essentially the same vision for the past 30 years. All chairs to this point have been direct scientific descendents of the founding chair, a pattern too insular for health. The original vision has worked well, but must be reinvigorated.

It will be no easy task for the University to maintain this outstanding department in the face of the competition it faces, particularly given the huge investments other institutions are making in competing programs as we enter the new frontier of the biological sciences.

#### Enclosures

- c: Richard L. McCormick, President  
Breck Byers, Professor and Chair, Department of Genetics  
Debra Friedman, Associate Provost for Academic Planning  
John T. Slattery, Associate Dean for Academic Programs  
David C. Hodge, Dean, College of Arts and Sciences  
Gary D. Christian, Divisional Dean, Sciences, College of Arts and Sciences  
Frederick L. Campbell, Dean and Vice Provost, Undergraduate Education  
Members of the Review Committee  
Professors J. Mike Wallace (Chair), Maynard Olson, Oscar Vilches, Robin Wright,  
J. Fleming Crim (University of Wisconsin), Royce Murray (University of North  
Carolina), Stephen Sligar (University of Illinois)  
Graduate School Council  
Augustine McCaffery, Assistant to the Dean  
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