



UNIVERSITY OF WASHINGTON  
*Undergraduate Academic Affairs*  
&  
*The Graduate School*

November 24, 2009

To: Phyllis M. Wise, Provost and Executive Vice President  
Douglas J. Wadden, Executive Vice Provost for Academic Affairs and Planning

From: Gerald J. Baldasty, Vice Provost and Dean  
James S. Antony, Associate Vice Provost and Associate Dean for Academic Affairs

Re: Review of the Department of Physics

This memorandum outlines the Graduate School's recommendations on the ten-year review of the Department of Physics B.S., M.S. and Ph.D. degree programs. Detailed comments on the department can be found in the documents referred to below. The review included the following milestones and documentation.

- Physics self-study (March 7, 2008)
- Charge meeting between review committee and administrators (September 16, 2008)
- Site visit (November 6-7, 2008)
- Graduate and Professional Student Senate (GPSS) Report (December 2, 2008)
- Review committee report (December 15, 2008)
- Physics response to committee report (February 5, 2009)
- Graduate School Council consideration of review (May 21, 2009)

The review committee consisted of:

Alvin Kwiram, Professor Emeritus, UW Department of Chemistry (Committee Chair)  
Albert Berger, Professor, UW Department of Physiology and Biophysics  
Paul Yager, Professor and Chair, UW Department of Bioengineering  
Drew Baden, Professor and Chair, Department of Physics, University of Maryland  
Brian Maple, Professor and Chair, Department of Physics, University of California, San Diego

A subcommittee of the Graduate School Council presented findings and recommendations to the full Council at its meeting on May 21, 2009.

### **Program Strengths**

The department has a "stellar" research and education record, it is ranked among the top 20 departments nationally; it has a distinguished faculty that have a strong record of publications and a history of securing research funding and garnering awards, and the department has an excellent physical facility. The review committee noted the department "enjoys one of the most important ingredients for future success: the presence of distinguished faculty who know how to recognize high quality research and intellectual

talent.” It has a robust undergraduate program—one of the largest in the nation; its majors participate in research and approximately 25% of the graduates go on to graduate school. Regarding diversity, the department has made serious efforts to hire a number of women but has been less successful with hires of underrepresented faculty. The department was commended for the Physics Education Group’s outreach to provide training on teaching Physics. It has an extensive K-12 program for teachers and schools in the Seattle area. Its outreach efforts also include sites nationwide.

### **Challenges and Risks**

In the 1997 department review, it was ranked 14 nationally, but the ranking has declined from 14 to 20 since that time. Factors that contributed to this decline were the loss of four distinguished faculty and the potential loss of two more in the 2008-2009 academic year. Additionally, a large number of the faculty may soon retire and within the next five years several faculty will be over 65 years of age. The committee recommended that attention be given to the limited number of international, women and minority student enrollment which needs to be improved.

A major challenge at the time of the review was the recruitment of a new department Chair. The committee noted that the history of the faculty’s “lack of a collegial and cohesive spirit” might dissuade internal and external candidates from considering the position. A final challenge is the potential changes in future funding for Physics from federal sources and at the state level.

### **Areas of Concurrence**

The department concurred with the review committee’s major recommendations and initiated steps to address them. The faculty appreciated recognition of both the importance and stature of physics as a discipline and its inclusion among the University’s most distinguished academic units. The department agreed with the drop in rankings, the loss of high quality faculty, and the age distribution of faculty members are problems it faces. Further, it accepted two major recommendations concerning faculty hiring and appointment of an advisory committee to make recommendations for the Condensed Matter Experiment and Biophysics areas, and internal senior strategic thinking about future focus and hiring.

The department is re-examining the undergraduate curriculum to address issues identified, including consulting with other academic units, and to consider “tracks” for majors and non-majors. The department did not respond to issues raised on graduate education—mentoring and student support, diversity issues, international student support, and what to do with the Physics Education Group.

### **Graduate School Council Recommendations**

The Council commended the department for its positive response to the committee findings and recommendations and the action it has initiated. The Council took the following action:

- Urged the new department Chair to expand on this response and engage the Dean of the College of Arts and Sciences and other stakeholders in supporting the department’s initiatives from its strategic planning and advice of the external advisory committee.
- Concurred that the Physics faculty can best plan for their future and the mechanisms outlined will support their endeavors.
- Urged the department to address all aspects of diversity as all areas are moving in the right direction but not yet in an ideal position.

- Encouraged the department to give careful consideration to the future of the Physics Education Group, keeping in mind not only matters of efficiency but the other contributions of this group in undergraduate education and diversity.

Due to the serious challenges it faces, the Council concurred with the committee's recommendation that the department undergo an interim abbreviated review (to not include a self-study) in five years (2013-2014). The Council also recommended continuing status for the department's B.S., M.S. and Ph.D. programs.

We concur with the Council's comments and recommendations.

c: Ana Mari Cauce, Dean, College of Arts and Sciences  
Werner Stuetzle, Divisional Dean, Natural Sciences, College of Arts and Sciences  
Edward Taylor, Dean and Vice Provost, Undergraduate Academic Affairs  
John Sahr, Associate Dean, Undergraduate Academic Affairs  
Blayne Heckel, Professor and Chair, Department of Physics  
David Boulware, Professor, Department of Physics  
Physics Review Committee  
Graduate School Council  
Jacob Faleschini, President, Graduate and Professional Student Senate  
Augustine McCaffery, Senior Academic Program Specialist, The Graduate School