Scholarship Guidelines
Department of Chemistry

From the Faculty Handbook:

"Professional activity and growth ranks second to excellence in teaching in the evaluation of faculty. Professional activity should be consistently apparent with successive appointments and be clearly evident at such key points as the granting of tenure and promotion to the rank of professor. The Personnel Committee will evaluate scholarly or creative work deemed to be professionally appropriate to each candidate's field, recognizing the variety of possible forms.

Several modes of professional activity are considered in the evaluation of professional activity, but the most important mode is evidence of the candidate's engagement in the intellectual life of his/her field of study beyond the boundaries of the campus community. While all items on the list below are valuable, the first is necessary:"

Given below is each item from the faculty code with guidelines from the Department:

"**a.** Research and writing that appear in peer-reviewed publications, noteworthy performances or exhibitions, or other appropriate peer reviewed professional activities in the candidate's field(s) of study.

External reviews by recognized experts in the candidate's discipline of productions or exhibits occurring at Whitman shall qualify as peer reviewed measures of professional activity;"

Guidelines:

Publication in peer-reviewed journals (print and electronic) is the primary mode of scholarly communication in Chemistry. We cannot list specific journal titles that are acceptable or preferred, since there are literally hundreds of journals in chemistry with individual sub-disciplines having their own preferred ones. However, we recognize all forms of peer-reviewed publications as worthy of merit. Peer-reviewed publication can include print and electronic journal articles, print and electronic chapters in books, software, entire books (print and electronic), invited and contributed papers that appear in peer-reviewed conference proceedings, and peer-reviewed contributions to the chemical literature intended for wider circulation. Serving as an editor for a peer-reviewed book or guest editor of a themed issue of a journal would also count as a form of peer-reviewed publication, if it included a written contribution or substantive editing of the contributed articles. Since a peer-reviewed publication may cross categories as defined by Whitman's tenure and promotion guidelines, the candidate must define the value of their work in the chemical literature at large. For example, peer-reviewed journal articles, books, software packages, and other works may serve both research and educational needs in a variety of fields of chemistry, and potentially in related fields as well.

At the time of review for tenure, our faculty should have published peer reviewed works after coming to Whitman and shown that they have established an independent research

agenda, preferably involving our students (see below). Since the rate of publication varies from one sub-discipline of chemistry to another, we expect that reviewers within the Department will comment on the appropriateness of the candidate's quantity and quality of publication in their letters of evaluation. For promotion to full professor, our faculty should show evidence of an ongoing successful program of professional development. The rate and form of the professional activity may change over time, but there should be evidence of steady work. It should also be noted that not all scientific experiments are successful and the effort itself is commendable. However, part of being a scientist is asking testable research questions that yield meaningful results. Both of these factors must be balanced.

Chemical research is very rarely the endeavor of a single investigator, and therefore multiple authorship is the norm. Determining the level of contribution to the research is not straightforward when multiple authors are involved. Therefore, for the purposes of review, the candidate must clearly articulate their role in the development, oversight, and writing of the work. Modern scientific research is a highly collaborative, teamwork-based, and multigenerational venture. It typically involves the work of researchers ranging in experience from undergraduate students to faculty, often working side-by-side, and distributed in labs across the country or even across the globe. The general rule is that anyone who makes a *substantive contribution* to the research should be an author—even if that person never writes a single word of the resulting manuscript. There are two privileged types of authorship: *first author* and *corresponding author*, where the first author is the first person in the author list. The first author has put the most effort into the work and creates the first draft of the paper. The corresponding author is the mentor of the group who has developed the ideas and project framework. The *corresponding author* is designated by a * or similar symbol adjacent to the person's name. The corresponding author is often—but not always—*the last person in the author list* (it could be anywhere in the list, including first). The corresponding author is the Ph.D. scientist (typically professor) who is in charge of the project. *Being corresponding author designates intellectual ownership of the research.* No matter how many authors are on a publication, no matter what a person's role is in a research project, authorship indicates a substantive contribution.

Student involvement in faculty research and co-authorship with students—including first authorship by the student—is the norm in the sciences at all institutions throughout the country, from liberal arts colleges to R01 universities. As such, the Chemistry Department considers student involvement to be a highly appropriate component of faculty scholarship and a fundamental element of an undergraduate education. Co-authorship with students is viewed positively in all areas, including peer-reviewed and non-peer reviewed items. Candidates should indicate the role of students in their work. It is understood by the Department that student first authorship is a positive indication of the faculty member's effectiveness as a researcher.

"**b.** Peer-reviewed publication in related areas, including but not limited to, matters of pedagogy and curricular design;"

Guidelines:

There are various journals, both in chemistry and in cross-disciplinary fields, that publish articles on teaching and/or short commentaries on pedagogical aspects of chemical education. All are considered acceptable. In addition to journal articles, reviewed publication can include books, software packages, and invited and contributed conference proceedings. Co-authorship with students in these publications is again highly regarded by the Chemistry Department.

"**c.** Non-peer reviewed publications and professional activity as defined in (a) and (b) above;"

Guidelines:

There are a variety of types of non-peer reviewed publications and professional activity that are valued by the Department. These include the following areas. (i) Patents. Although patents are not technically "peer-reviewed", they are reviewed by an expert, and constitute a substantial contribution to the field that reflects a considerable investment in time and resources. Therefore, these should be considered a more substantive contribution than other forms of non-peer reviewed works. (ii) Publication of non-peer reviewed journal or magazine articles, books, book chapters, software packages, encyclopedia entries, websites, blogs, etc. (iii) The development and dissemination of a variety of educational materials, such as laboratory manuals, laboratory experiments, lecture notes, PowerPoint presentations, handouts, software, standardized exams, and other classroom materials. The extent to which these materials are disseminated and used at other colleges and universities throughout the country and abroad is an indication of their value. (iv) Invited or contributed conference presentations that appear in non-peer reviewed proceedings. (v) Publication of white papers or reports as a part of professional consulting work done for academia, industry, or government. (vi) Submission of datasets, physical samples, or other forms of scientific production to online databases, museums, or other collections. In some cases, the acceptance of datasets or physical samples to databases or collections may require that they meet a variety of rigorous standards that are evaluated by an expert; while substantive, these scientific products do not rise to the level of peer-reviewed work.

"**d.** Active involvement in professional organizations; "

Guidelines:

The Department values a variety of contributions to the profession. In many cases, these activities require a great deal of time and thought, and reflect an acknowledgement of a person's reputation in the field. However, since the nature of such activities can vary a great deal, the candidate should make clear what the duties entail, and reviewers from the Department should comment as to their value in their letters of evaluation. The following items are among those included in this category. (i) Activities such as holding an office or being part of a committee in a professional organization. (ii) Serving as a referee for one or more journals, writing reviews of published articles for the chemical literature, editing journals or books (where such contributions do not qualify in category "a" above), writing professional reviews, and serving as a reviewer for grant proposals. (iii) Professional

consulting work done for academia, industry, or government, that does not result in publication or publically available reports. (iv) Sponsoring a conference here at Whitman, organizing and chairing a session at a regional, national, or international meeting, or serving in a leadership role at a conference.

"**e.** Participation in professional meetings and conferences, including presentations made with student co-authors;"

Guidelines:

Attending professional meetings, presenting papers (both oral presentations and posters) at meetings or conferences, taking students to conferences, and giving invited presentations or seminars at other colleges and universities are important as a support to other scholarly activities and therefore are valued by the Department.

"**f.** The writing and submission of proposals for external grants."

Guidelines:

This category covers the writing and awarding of external grants for the acquisition of scientific instrumentation for research and teaching; for the development of educational and reference materials, workshops, and new courses; and for the support of their individual research (including instrumentation, summer salary, materials and supplies, travel, summer stipends for students, etc.). The Department strongly encourages faculty to seek external funding through the submission of grant proposal to government or private agencies. However, funding opportunities to support undergraduate research are limited and highly competitive, and only a small percentage of proposals are generally successful (rarely higher than 30% and sometimes less than 10%). Success in securing external funding is based on peer-review and often involves revision and resubmission of proposals after addressing reviewers' comments. Unfortunately, due to the low funding rate, proposals are often not successful even though reviewers rank the submission very highly. Therefore, submission of external grant proposals is viewed favorably even if they are not accepted for funding. Consistent with the Department's emphasis on the importance of involving students in research, an externally funded research program involving students at Whitman is very highly valued.

The remaining points from the Faculty Handbook are:

"The Personnel Committee will also consider activities, such as the development of new areas of expertise in the discipline, that may bring the candidate into the larger intellectual dialog of his or her field, as well as interdisciplinary professional activities. The judgment of the Committee will not be based solely on the quantity of the candidate's professional activity, but also will consider its quality, breadth, and contributions to the candidate's teaching and the mission of the College. The Personnel Committee will consider the candidate's written statement, letters from the candidate's peers both within and without the College, and direct

examples of the candidate's professional activity. We value the development and collaborative nature of interdisciplinary classes, and recognize the time and effort required to develop such new activities.