

**The Department of Physics and Astronomy
The University of Tennessee, Knoxville**

Departmental Bylaws

November 2016

I. Introduction

The Department of Physics and Astronomy at The University of Tennessee, Knoxville, is to be governed by these bylaws. These bylaws are subject to all policies and provisions as set forth both by the *Faculty Handbook*, the Manual for Faculty Evaluation, and the bylaws of the College of Arts and Sciences, and shall not supersede any existing regulation of The University of Tennessee or bylaws of The University of Tennessee Faculty Senate.

II. Faculty

A. Department Head

1. The dean of the College of Arts and Sciences appoints the department head following consultation with department faculty.
2. The department head assumes administrative responsibility for the management and operation of the physics department.
3. The department head shall preside over meetings of the faculty and the board of visitors
4. The department head may appoint one or more associate heads from among the faculty of the department to assist in the administration of the department.

B. Faculty Membership

1. The faculty of the department shall consist of those who hold an appointment in the department as either a full-time or part-time employee at the following academic levels:
 - a) Tenured and tenure-track (tenure-line) professors at all the ranks (full, associate, and assistant).

- b) Research, joint faculty, adjunct, and visiting professors at all ranks.
 - c) Emeritus professors at all ranks.
 - d) Lecturers and instructors.
2. The voting faculty shall consist of the following subset of the full faculty:
- a) Tenure-line professors.
 - b) Centrally funded Joint Faculty independent of home institution (see II.B.4)
 - c) Full-time lecturers.
 - d) Faculty members who have specifically been granted voting rights by the voting faculty.
3. Granting of voting rights require an affirmative vote by at least two-thirds of the voting faculty. Voting rights can be granted for up to five years and are renewable. A written record of the justification for granting the voting right should be kept in the faculty member's departmental file.
4. Centrally funded Joint Faculty with shared appointments between The University of Tennessee and Oak Ridge National Laboratory, as defined by the Joint Faculty agreement between UT and ORNL, enjoy all the same privileges and responsibilities within the department as tenured or tenure-track faculty independent of whether their home institution is UT or ORNL with the exception that Joint Faculty with home institution at ORNL cannot vote on personnel decisions affecting UT tenure-line faculty. The UT workload requirements for Joint Faculty are prorated according to the UT share of their appointment. It is expected that centrally funded Joint Faculty members will use the Department of Physics byline when publishing papers, giving talks, or in other circumstances where an affiliation is given.
5. Externally funded Joint Faculty ("0% Joint Faculty") are those with shared appointments between UT and another entity, typically ORNL, whose UT appointment is sponsored exclusively from externally funded research contracts. Externally funded Joint Faculty does not share the faculty privileges and responsibilities as set out in the Faculty Handbook or section II.B.4 of these bylaws concerning centrally funded Joint Faculty. The conditions of their employment shall be similar to those of Non-Tenure-Track Research Faculty as described in the Faculty Handbook. Selection and appointment of externally funded Joint Faculty

shall follow the same process as described for Adjunct Faculty in section II.B.6 of these bylaws. Externally funded Joint Faculty is expected to contribute to the mission of the department according to the stipulations of their appointment letter. It is expected that, as appropriate, externally funded Joint Faculty members will use the Department of Physics byline when publishing papers, giving talks, or in other circumstances where an affiliation is given.

6. Adjunct Professors of all three academic ranks are appointed with a majority vote by the voting faculty. Nomination for adjunct faculty membership is to be made by submission of a written request to the Head by the candidate and by two voting members of the faculty. The Head will propose the appropriate academic rank to the faculty. Appointments of adjunct faculty are expected to be reserved for individuals with substantive association with the educational, research or outreach activities of the Department of Physics. All nominations must be accompanied by a vita of the nominee as well as a written statement of the nature of their association with the Department of Physics. Appointments as Adjunct Faculty are made for a fixed term only. The initial appointment is usually made for not more than three years. Appointments as Adjunct Faculty may be renewed for additional fixed terms, typically for four years, by majority vote by the voting faculty following nomination by two voting members of the faculty. It is expected that, as appropriate, adjunct faculty members will use the Department of Physics byline when publishing papers, giving talks, or in other circumstances where an affiliation is given.

7. Research Professors of all three academic ranks are appointed with a majority vote by the voting faculty. Nomination and approval for research faculty membership follows the same procedure as for Adjunct faculty as given in section II.B.6 of these bylaws. Research professors are expected to derive their salary from external research grants and contribute to the research mission of the department by carrying out research as stipulated in the grants. Research professors can also contribute to educational, service, or outreach efforts after approval by the Head. The appointment as a Research Professor will usually continue for as long as external funding is available. It is expected that research faculty members will use the Department of Physics byline when publishing papers, giving talks, or in other circumstances where an affiliation is given.

8. For faculty appointments, where the job requirements might overlap two or more of the appointment categories, the title(s) and job requirements should be approved by the faculty and be specified in the appointment letter.

C. Faculty Meetings and Voting Procedures

1. Faculty meetings are in general open to all members of the faculty. However, for deliberations concerning hiring, promotion, tenure, or other decisions related to individual faculty members the Head can limit the attendance to the part of the faculty who have voting rights concerning the issue at hand.
2. There shall be a faculty meeting at least once in each term during the academic year.
3. The department head shall distribute the agenda for faculty meetings to the faculty at least five calendar days, if feasible, before the meeting.
4. All faculty meetings shall be chaired by the department head or a designate and will be conducted in accordance with the procedures of Robert's Rules of Order.
5. Voting may take place either during regularly announced faculty meetings or by electronic ballot. For hiring, promotion, and tenure decisions, or other decisions related to individual faculty members, the voting shall be done by a secret written ballot during a faculty meeting. For all other voting, the Head may select the method of voting.
6. A quorum for votes concerning hiring, promotion, or tenure shall be $\frac{2}{3}$ of the voting faculty who are entitled to vote on the specific issue (see section II.B.7). For example, for promotion to full professor the quorum will be $\frac{2}{3}$ of the tenured full professors. For other votes, there are no specific quorum requirements, unless otherwise specified in these bylaws. If the vote employs electronic ballot, a quorum shall be assumed if all voting members of the faculty have been informed of the process in a timely fashion.
7. Proxy votes are allowed for voting taking place during faculty meetings. Proxy votes should be counted towards the determination of a quorum. Requests for proxy votes should be submitted in writing (or email) to the departmental Office Manager at least 24 hours before a faculty meeting.
8. In general, all faculty members can deliberate and all voting faculty can vote on all issues proposed to the faculty. However, this general rule is superseded in the following situations:

- a) For hiring of faculty in tenure-line (tenured or tenure-track) positions only the tenure-line faculty can deliberate and vote.
- b) For tenure decisions only the tenured faculty can deliberate and vote.
- c) For promotion of tenure-line faculty to a given rank only tenure-line faculty at or above that rank can deliberate and vote.

D. Hiring of Faculty

1. Faculty shall be hired in keeping with the department's long-range plan, which is to be updated at least every five years by the planning committee. This plan sets forth the priority areas for new faculty hires. New opportunities can be brought to the department head and the planning committee for consideration, and then to the faculty upon approval by the planning committee. New circumstances or initiatives at the University can lead to a re-evaluation of the long-range plan.
2. The Head initiates the process of starting a new search or opportunity hire after having consulted with the Planning Committee concerning the area and scope of position. The selection of the area of the search or opportunity hire should be guided by the strategic recommendations of the departmental long range plan together with the tactical situation for obtaining funding and approval.
3. Upon approval of the search or opportunity hire by the College, the Head will establish a search committee. The majority of this committee shall consist of faculty members with expertise within the area of the search as well as selected members from other areas within the department. The Head shall take extra care in attempting to make the composition of the search committee as diverse as possible. In certain situations, faculty members from other UT departments can also serve on the committee as consultants with no voting privilege if they provide needed expertise not found within the department.
4. The search committee shall attempt to create as diverse a pool of candidates as possible. In its deliberations of the qualifications of the candidates it should also consider the variety of personal and professional experiences applicants from minority backgrounds might

have had as well as consider how each candidate might contribute to an enhancement of the climate of equity and inclusion in the department.

5. The search committee shall assume responsibility for selecting, interviewing, and recommending candidates for the faculty position. A representative for the search committee shall present the committee's findings and recommendations at a faculty meeting, whereupon the faculty shall deliberate and vote on these recommendations.

6. The department head reviews the recommendation of the search committee and the deliberations and votes of the faculty and makes a recommendation to the dean. If the Head's recommendation differs from the faculty vote, the Head will inform the faculty in writing about the reasons for his/her decision.

E. Promotion and Tenure

1. All departmental actions concerning appointment to the faculty, retention, tenure, and promotion, will conform to the standards and procedures set forth in the *Faculty Handbook* and the Manual for Faculty Evaluation.

2. The department head shall appoint a mentor for a newly hired assistant professor. The mentor will be a departmental faculty member preferentially at the full professor level working in an area of research close to that of the new assistant professor, if possible. In certain situations, mentors can also be selected from outside the department if the department head judges this to be in the best interest of the mentee. It is the responsibility of the mentor to have frequent interactions with the mentee and to actively guide him/her with all aspects of the work and professional life of a probationary faculty member.

3. After the assistant professor has served three years on the faculty, the department head will ask the departmental promotion and tenure committee to perform an enhanced retention review of him or her. The purpose of this review is to judge the progress of the junior faculty member toward tenure, make recommendations on needed improvements, and advise the department head and the tenured faculty on retention. The *Manual for Faculty Evaluations* describes the procedures for the enhanced retention review with the exception that in this department it is the responsibility of the promotion and tenure committee to provide the faculty review described in section B.1.a of *The Manual for Faculty Evaluations*.

4. The department head may identify candidates for promotion and tenure, or faculty members may propose candidates. Faculty members may also propose themselves for promotion and tenure. Nominations will be in accordance with the Provost's letter of appointment.

5. In addition to the minimum eligibility criteria for appointment to the three academic ranks specified in section 3.2 of the *Faculty Handbook* the Department of Physics and Astronomy also emphasizes:

a) For tenure and/or promotion to Associate Professor:

(1) Competitive funding as a Principal or co-Principal Investigator at a level sufficient to operate a small research group (typically a post-doc or a couple of graduate research assistants, summer salary, travel funds, and operational/equipment funds normal for the subfield of the candidate).

(2) A number of refereed publications with the candidate as a primary author in journals with high impact and broad readership. For most fields of physics this will correspond to a couple of refereed publications annually in the period after the enhanced retention review.

(3) Several invited presentations at topical conferences within the subfield of the candidate during the probationary period.

b) For promotion to Full Professor:

(1) Sustained external funding as a Principal or co-Principal Investigator at a level sufficient to operate a fully functioning research group.

(2) A substantial set of refereed publications in high-impact journals with a citation index commensurate with general established norms for the candidate's subfield.

(3) A sustained record of invited talks at major topical conferences.

It is the responsibility of the department head to discuss these criteria with the candidate and, in case of disagreement, to decide what the above-mentioned general established norms should be for the candidate. The specific criteria for the candidate should be communicated to the faculty. For non-tenured candidates this should be done at the annual retention faculty meeting and for tenured candidates it should be done at the first faculty meeting after they receive tenure.

In extraordinary circumstances these eligibility criteria might not apply fully for a candidate. In that case it is the responsibility of the head, after consultations with the candidate and the Promotion and Tenure committee, to specify in writing the appropriate criteria. The head shall inform the candidate and the faculty about the special criteria. This should ideally be done at the time when the candidate enters a new level (after being hired as a probationary faculty member or after receiving tenure) or at least three years prior to the promotion or tenure decision.

6. The department head must judge the candidate's qualifications according to the eligibility criteria specified in section II.E.5 of these bylaws. If the head finds that the candidate is likely to meet these eligibility criteria he/she submits a nomination to the department's promotion and tenure committee. However, if the head finds that the candidate might not meet these criteria he/she should inform the candidate and advise the candidate accordingly. If the candidate after this consultation still wishes to be considered for promotion or tenure the head shall submit a nomination to the promotion and tenure committee.

7. The promotion and tenure committee will be responsible for organizing the faculty evaluation of the candidate according to section B.1.b of the *Manual for Faculty Evaluation*. This committee will also be responsible for selecting the external evaluators, some suggested by the candidates and some suggested by the faculty. The number of evaluators and the criteria for their eligibility shall follow the university and college guidelines. The department head is responsible for requesting evaluations.

8. The candidate shall present a departmental colloquium before the first faculty meeting at which the tenure or promotion issues are discussed. If feasible, the colloquium shall take place in the same semester as the faculty recommendation on promotion and tenure. The major part of the colloquium should focus on the candidate's own research.

9. There must be two faculty meetings to discuss promotion and tenure for a candidate. The first meeting is devoted to discussion of the data. The second meeting involves further discussion and a vote. If possible, meetings should be at least two weeks apart to give faculty time to study the related data regarding a candidate's nomination. It is the responsibility of the promotion and tenure committee to record the formal vote as well as a written summary of the faculty's deliberation. A

two-thirds vote of the faculty eligible to vote will be considered a positive recommendation.

10. The department head, in forming his or her own promotion and tenure recommendation, should consider whether a consensus of the faculty forms. The report by the promotion and tenure committee and department head recommendation are submitted to the dean.

11. The department head must notify the tenured faculty if his or her recommendation deviates from the majority of the faculty. The head must also inform the faculty of his or her recommendation before submittal to the dean.

12. The department head must provide the faculty member with a copy of the recommendation at the same time it is submitted to the dean. This is currently done via the online faculty evaluation system.

13. Tenured faculty, individually or collectively, may forward a dissenting report to the next level of review.

F. Annual Faculty Evaluations

It shall be the responsibility of the department head to perform an annual evaluation of all regular faculty members. The detailed formulation of the review process is left to the department head, but the process is to be consistent with the policies of the University and the College of Arts and Sciences and is expected to include the following:

1. Announcement of evaluation procedures

In a timely fashion, the department head will inform all regular faculty members of the procedure for the annual evaluation. This includes a schedule for each step in the process, including formats for submission of information, as well as clear description of the actions expected by the faculty member and the department head.

2. Statement of Faculty Performance Expectations

The department head will provide the faculty with a Statement of Faculty Performance Expectations. This statement shall contain a comprehensive description of the philosophy and the specific expectations used by the department head in the annual evaluation of faculty. The statement should be updated each year prior to the start of the academic year the statement is valid for.

The statement should be published as an addendum to these bylaws and made available to all members of the faculty.

In addition to the general expectations in the Statement of Faculty Evaluation more specific individual expectations might be appropriate to some faculty members. The department head in consultation with each faculty member shall define these individual expectations for the next evaluation period during the annual evaluation meeting.

3. Submission of information by faculty members

It is the responsibility of each faculty member to submit all material germane to the evaluation to the department head by the date defined in the review process. The format shall be consistent with that defined by the evaluation procedure. It is understood that it is the responsibility of each faculty member to provide this information in a timely fashion and in the required format. While the department head may, as appropriate, consider information in addition to that submitted by the faculty member, he/she is not responsible for the failure to consider information that was not submitted in the correct format and in a timely fashion.

Information to be provided by each faculty member is expected to include, but is not limited to:

- Papers published in refereed journals
- Books or book chapters published
- Information about submitted, rejected, and funded proposals for competitive funding and/or external funding.
- Invited talks at meetings and conferences by the faculty member or the graduate students or postdocs working directly for him or her
- Major prizes and honors
- Professional recognition and important national or international committees and boards
- Activities in teaching (including graduate student supervision)
- Public service
- Departmental and University service
- Other substantial professional accomplishments
- Plans for professional activity over the next evaluation period

4. Evaluation by department head
Based on the submitted information, teaching evaluations, database information available through the UT Library, and other information as appropriate, the department head assigns a grade or ranking as mandated by University policy.
5. Review by faculty member
Each reviewed faculty member will be informed of his/her evaluation in a timely fashion to allow a review. At their discretion, either the department head or the faculty member may request a formal meeting to discuss issues relating to the evaluation.
6. Further review procedures
The head and the faculty members will follow the procedures and deadlines as established by the College for the submission and potential appeal of evaluation material and evaluations.
7. Faculty performance not meeting departmental standards
If a faculty member's performance falls below the rating of "meets expectations" in any individual category the department head shall meet with the faculty member and together they shall agree on a plan to help the faculty member to perform better. The details of the plan are left at the discretion of the department head and can include elements like a) better support and training in needed areas or b) reassignment of tasks so the faculty member can better contribute to the complete mission of the department.

If a faculty member's overall performance in any given year falls below the rating of "meets expectations" the department head shall, after consultations with the faculty member, develop an improvement plan that will guide the faculty member to a better performance. The improvement plan shall also contain milestones that will be used in the evaluation of the faculty member the following year. If a faculty member's rating is within the criteria given in *the Manual for Faculty Evaluations* for a Cumulative Performance Review of Tenured Faculty the procedures given therein supersede these bylaws.

G. Merit Raises

It is understood that the assignment of performance based raises or compensation will be based upon the outcome of the Annual Faculty Evaluations as determined by University policies. The department head is responsible for selecting the criteria by which merit and equity raises are determined and for informing the faculty in writing about these criteria.

H. Teaching Loads

1. In accordance with UTK policy, a full-time load shall be defined as the equivalent of 12 credit hours per term. There are four factors involved in determining teaching assignments:

- a) Teaching a lecture or laboratory course
- b) Guiding graduate students in research
- c) Personal scientific research
- d) Service to the department, the University, and/or the public

2. The Department aims at assigning faculty members with a 1+1 teaching load, if they have an active and well-funded research program and they are actively supervising graduate students for dissertation work.

3. The department head makes each semester's teaching assignments based on the above workload factors. The department head shall solicit and consider faculty requests for specific teaching assignments and is the final arbiter of disputes involving assignments. The teaching assignments shall be announced at least two months prior to the start of classes for a given semester.

III. Departmental Affairs

A. Standing Committees

1. Since the department head is responsible for the management and operation of the department (section II.A.2) he/she will determine the committee structure, the committee membership, and other assignments of faculty as needed for the department to accomplish its mission. Exceptions are the core committees specified in section III.A.3 of these bylaws.

2. The faculty of the department shall control the addition, alteration and deletion of the curriculum and courses as well as the creation and modification of degree programs.

3. The major standing committees normally function only during the academic year, and meet at least once during each term. Additional meetings may be called by the chair of each committee or on petition of three members. The department head shall be advised of all meetings and is considered an ex-officio member of all committees unless the committee charge specifies otherwise.

4. The following core committees must exist within the department:

- a) Planning* (advises the department head on issues of departmental policies, strategic planning, and faculty searches)
- b) Promotion, Tenure and Awards* (review and recommendation of faculty for retention, promotion, tenure, and awards)
- c) Undergraduate Studies for Majors (Curricular, recruiting, and admission issues for undergraduate physics majors)
- d) Undergraduate Studies for Non-Majors (Curricular issues for general education and service courses for non-physics majors)
- e) Graduate Studies (Graduate curriculum, graduate admission policies, and graduate degree programs)
- f) Student Appeals Review (Review student complaints as final step of internal appeals process)

**Must include a distribution of people from different research specialties.*

5. All other committees and areas of responsibilities as well the people assigned to these tasks are determined by the department head and published annually at least two months prior to the beginning of the academic year.

B. Curriculum/Undergraduate and Graduate Requirements

1. Proposed curriculum changes are reviewed by the graduate and undergraduate studies committees and then voted upon. If passed, they are forwarded to the faculty for a vote.

2. The exam structure and graduation requirements in the graduate program is developed by the graduate studies committee in accordance with the University policies and approved by the faculty.

3. After faculty approval, any proposed changes addressing the curriculum will be forwarded through the appropriate University channels.

C. Advising

1. Undergraduate and graduate physics majors are to be under the advisement of the department's faculty.

D. Graduate Students

1. Graduate students are, in general, expected to teach instructional laboratories as full teaching assistants during their first year of graduate study and full or half-time TAs during their second year.

2. It is the expectation that a faculty member will provide financial support for any graduate student supervised by them after the student passes their qualifying examinations.

3. It is expected that a tenure-line member of the faculty will direct the research of Ph.D. students. If a student is working with Oak Ridge National Laboratory or other outside scientific research institution, the chair of the student's committee must be either a tenure-line or a centrally funded joint faculty member of the faculty.

IV. Amendments

A. The faculty and the department head shall have the power to amend these bylaws according to the following procedures:

1. Amendment proposals shall originate through a petition to the planning committee signed by at least seven members of the voting faculty or by the department head.

2. The planning committee shall present proposed amendments to the faculty in writing before the earliest possible regular faculty meeting following receipt of a petition.

- a) At that faculty meeting (or subsequent meetings when in order) a motion to poll the faculty for the purpose of adopting the prospective amendment may be made and voted upon according

to the usual rules of parliamentary procedure, a majority vote being sufficient to carry the motion.

b) After a motion to poll the faculty has carried, a ballot shall be distributed immediately to all voting faculty and, after seven days, the planning committee shall count votes. An affirmative vote by two-thirds of the voting faculty shall constitute an enactment of the amendment. The voting faculty shall be informed in writing of the amendment when it is enacted.

c) Amendments shall become effective immediately following the vote of enactment.

B. The planning committee shall review the bylaws at least once every five years to determine their effectiveness and either propose amendments if necessary or to propose a complete re-writing of the bylaws due to changes in the College or University rules and regulations.

Statement of Faculty Performance Expectations

AY 2016-2018

Department of Physics and Astronomy

By Department Head

August 1, 2017

Preamble:

"The department head will provide the faculty with a Statement of Faculty Performance Expectations. This statement shall contain a comprehensive description of the philosophy and the specific expectations used by the department head in the annual evaluation of faculty. The statement should be updated each year prior to the start of the academic year the statement is valid for. The statement should be published as an addendum to the bylaws and made available to all members of the faculty." (Departmental Bylaws; Section F2).

"It is understood that the assignment of performance based raises or compensation will be based upon the outcome of the Annual Faculty Evaluations as determined by University policies. The department head is responsible for selecting the criteria by which merit and equity raises are determined and for informing the faculty in writing about these criteria." (Departmental Bylaws; Section G).

This document outlines the Head's criteria and philosophy in conducting faculty annual performance evaluations and in determining both merit and equity raises.

1. Introduction:

Per university guidelines, I evaluate faculty for their contributions in teaching, research and service over the past three academic years on a scale from one to five, as follows:

FF—Falls far short of meeting expectations for rank (1)

FS—Falls Short of meeting expectations for rank (2)

ME—Meets expectations for rank (3)

EE— Exceeds expectations for rank (4)

FE— Far exceeds expectations for rank (5)

While as a department we emphasize teaching and research, I average the scores in teaching, research and service in determining your overall score, unless you and I have come to a different agreement regarding your assignment and effort allocation. For junior faculty, I will weigh teaching, research and service according to a 2:2:1 ratio, respectively. Per university guidelines, *"Service expectations are greater for Full Professors than for individuals holding lesser ranks."*

In the past, a small number of faculty carried most of the service responsibilities while others could focus on their research. With the generational turnover, this can no longer be the modus operandi of our department. In addition, excellence in service has become truly critical to the overall mission and reputation of the department. For this reason, I intend to increase my emphasis on faculty involvement with the department and university, as well as your service to the profession and broader community.

The following narrative outlines my expectations with regard to faculty performance and my philosophy in conducting the annual performance reviews and allocating merit raises. Conducting an annual performance is far from being an exact science or bean counting exercise. Nonetheless, while I do try to take a 'holistic view' of your accomplishments, I do need quantifiable metrics, particularly in evaluating research and (to a lesser extent) in teaching. In the end, it is unavoidable that performance evaluations are subjective. The best I can do here is to outline the criteria I deem most important, and to be consistent and fair in adhering to my own guidelines. In the final section I will outline how I determine your merit raise (when available).

2. Research:

My criteria for evaluating research and creative activity include: (1) research productivity, as measured by the number of papers and book chapters published over a three year period; (2) the reputation of the chosen journals based on the journal's impact factor; (3) researcher's impact in the field as measured from the number of citations according to the Web of Science (excluding self-citations); (4) cumulative Hirsch index; (5) external funding; and (6) invited talks, including colloquia, workshops, and major conferences.

In conducting annual evaluations, I have to rely on quantifiable and verifiable metrics. Nonetheless, as I said, annual evaluations are by no means bean-counting exercises. The context is very important, and for that I will have to use my personal academic judgment based on the additional information faculty provide. The latter is very important. For instance, the desired publication output of a research active faculty member who teaches only one course per semester, should be about two or more research papers per year *on average*. Most importantly, however, is the quality of the research, the stature of the journals where the papers are published, and the overall impact of a faculty's research program, as measured by e.g., citations and research funding. On the one hand, short articles in the form of a Letter tend to have higher impact factors (e.g., *Physical Review Letters* versus *Physical Review*, 'glossy journals'), yet extended in-depth articles often contain much more detailed information that are more valuable for follow up research. Those publications should be appreciated as such, which goes to show that publication and citation numbers should be interpreted with care and in the proper context. That's my job. The faculty member, on the other hand, has to show that his/her research program is productive and of high quality, and that it is recognized as such by the broader physics community. Therefore, I make the following recommendations.

I encourage faculty to publish the majority of their articles in mainstream journals that are indexed in the Web of Science with impact factor greater than two. Mainstream journals include publications of the American Physical Society, such as *Physical Review* or *Physical Review Letters*, and American Institute of Physics journals such as *Applied Physics Letters* and the *Journal of Chemical Physics*. Generally speaking, the bar for publication in those journals is quite high, and accordingly, I will consider acceptance by those journals as an important indicator of the quality of the research. That doesn't necessarily mean that all papers in lower-impact journals have lesser quality but it is generally considered important for your scientific reputation to have some high profile publications. Therefore, if you think your work is both novel and of very high quality, you should aim high.

Publications in more specialized and/or applied journals are fine too as long as they adhere to a similarly rigorous peer review process. Quite a few physicists publish in reputable American Chemical Society journals, such as JACS, ACS Nano, or the Journal of Physical Chemistry. Some open access journals such as the New Journal of Physics and PLOS journals also have very good reputations. As a rule of thumb, I discourage faculty from frequently publishing papers in newly established open access journals or in conference proceedings, as the rigor of the peer review and impact of the journal is either limited or has yet to be determined. Overall, I discourage publication in journals that are very difficult to access (as is often the case with conference proceedings), or journals with impact factor less than 2, because your work likely will not be getting the recognition it deserves. I reward publications in high profile journals such as Physical Review Letters, Science, Nature journals and PNAS. I value patents but recommend that they be accompanied, if possible, by a publication in the open literature.

With regard to citations, I am mostly looking at trends (as opposed to absolute numbers). I am keenly aware of the fact that the citation score can vary substantially between different sub-disciplines and I do take this into consideration. In many fields, the Hirsch index is a good measure for determining citation impact (and more precisely the h-index divided by years of active service since the PhD), as compiled by the Web of Science. The Hirsch index is a widely used indicator in the academic community to measure a researcher's success. As a reference, faculty that were promoted to full professor in our department in the past 10 years had h-indices greater than 20 at the time of their promotion, as determined from the Web of Science (Hirsch suggested an index of 18 for full professor status in physics). A Hirsch slope greater than one usually indicates that a researcher is very successful. Again, this is only one of the many indicators and variations among disciplines should be looked at carefully. Specifically, citation numbers of faculty involved in large collaborative projects can be quite meaningless without adequate background information concerning the individual's contributions to the published papers. Likewise, a drop in citation numbers may reflect a strong reduction in funding for the field, meaning that many people will move on to other topics and no longer cite your quality work. In short, I do not stare myself blind at the exact numbers, but these combined metrics do allow me to gauge the impact of a faculty's research program, especially in comparison to our peers in the department and those at our peer institutions.

Competitive funding (e.g., NSF, NIH, DOE or DOD) is generally viewed as a *major recognition* of one's research qualifications and accomplishments. Competitive means that the proposal was written in response to an open call (or sometimes 'unsolicited') and that the proposal has been vetted through rigorous peer review. It is of course great if one has internal sources of funding such as funding from ORE (e.g., SARIF and ORU grants), LDRD funding at ORNL, or State earmark funding. However, all faculty are expected to raise external funds. In my judgment, external funding is a very important criterion for promotion in rank. These funds attest to one's reputation, provide support for graduate students, and generate much needed F&A. As a rule of thumb, an active researcher should be able to support at least two graduate students from his/her grants.

Sometimes, it turns out that a research area is no longer fundable. In that case, I expect the faculty member to explore other research options, and/or discuss a possible reassignment of duties in the department. Once a faculty member is no longer active in research, the lost research effort is expected to be compensated by his/her increased activities in teaching and service.

Invited talks are also a good indicator of program recognition, especially those at major international conferences (such as an APS March or April meeting) where the speakers are selected by independent committees. No doubt, professional awards such as an APS or AAAS Fellowship or a named Prize from a professional society are among the strongest indicators of program recognition. They are usually bestowed on senior faculty. These recognitions carry more weight as compared to internal recognition, such as a College or Chancellor's award.

All of the above metrics allow me to form a picture of the overall accomplishments in research and creative achievement. I emphasize that these evaluation criteria (including the use of the Web of Science and the Hirsch index), are widely used in academia and national laboratories to determine program quality. These criteria also reflect a broad consensus within the physics faculty, as is clearly evident from the way the tenured faculty conducts the annual retention, tenure, and promotion reviews. Impact scores are extremely important to program managers and peer reviewers at federal funding agencies such as DOE and NSF as they do not like to fund research with little impact. They greatly influence expert opinions on program quality, which in turn affects the ranking of our graduate program. Nonetheless, performance evaluation is not an exact science. For this reason, I always encourage faculty to be very specific and concise when writing about their annual accomplishments, so that I can place the metrics in the appropriate context. The future planning statement is equally important so that I have another way of tracking progress. These two sections of the workload form are extremely important and should address the relevant performance metrics.

3. Teaching:

Teaching includes classroom teaching as well as supervision of (under)graduate and postdoctoral researchers. It does not include (under)graduate advising, which should be listed under service. While there are some quantifiable metrics such as SAIS scores or student credit hours taught, I find it more difficult to translate these metrics into merit points, and I therefore rely somewhat more on subjective impressions.

Classroom teaching is mostly evaluated on the basis of your course reports (see <http://utk.campuslabs.com>) and peer evaluations (if applicable). I always compare course reports against those of others who taught the same course during the past several years (Note: the new course reports are somewhat different from the old SAIS reports). If your scores are very close to average for that course, you will likely meet expectations. In addition, I am looking at the student comments. I am very well aware of the fluctuations in student experiences and their responses to the various questions but overall, I find that the course/SAIS scores are a reasonable indicator especially for larger classes, and when taken into the proper context (for instance studio versus traditional teaching). For your own benefit, it is critically important that you compel your students to complete these evaluations, and that you study the student responses carefully and consider making changes to your lectures and/or lecturing style, if appropriate.

Another very important indicator is (under)graduate research. Do you supervise or co-supervise (under)graduate students in their research and what is your track-record in mentoring and supervising these students towards a successful and timely completion of their project? How many PhDs and master's theses do you produce? Has their work led to (preferably first-author) publications? Have they presented at conferences, etc. Are your students able to find good jobs? Similar considerations apply to postdoctoral supervision.

Finally, I recommend that you write about your students' accomplishments in the "annual accomplishments" section. It helps me assess your mentoring skills and how your students are doing.

4. Service:

Service encompasses service to the department, for instance committee work or student advising (other than direct thesis supervision), service to the College or University (e.g. serving on the graduate council or faculty senate), professional service (e.g. refereeing, panel participation, organizing symposia, active

involvement with professional societies, governance, etc.), and community outreach (e.g., Science Olympiad, visits to local area high schools, public lectures, etc).

Importantly, the expected level of service activity goes up with rank. Specifically, junior faculty are encouraged to focus primarily on teaching and research as their teaching credentials and scientific output/funding are the more important criteria for tenure.

My scores on 'service' are unavoidably the most subjective among the three performance categories. Again, it is important to communicate your efforts and success stories to me personally and in the annual accomplishment section of your workload report.

5. Meeting expectations:

Nearly all faculty meet expectations in their overall score (otherwise we would have a big problem) but not everyone exceeds expectations (otherwise expectations would be too low). Since there are so many variables, it is difficult to state precise criteria for meeting expectations. However, if it is any help, let me state that a research active professor who teaches one course per semester will normally meet expectations if he or she meets the average score on the course evaluation, publishes on average two or three papers in peer reviewed quality journals each year, gets two or three invited talks on average annually, supports two graduate students on external research grants, actively contributes to departmental committees, and reviews several manuscripts and maybe one or two proposals each year. Since the average person does not exist, this only serves as a rough guideline. It is recognized that individual contributions may not be equal in the three performance areas. Accordingly, more limited achievement in one area may be offset by excellence in the other two areas. If Prof. X regularly publishes in a high profile journal and/or gets a major increase in funding, I would probably bump up the rating on research. I reserve a "far exceeds expectations" for exceptionally high performance. 'Exceptional' implies an 'off-scale' job performance, meaning that this rating is rarely issued.

Overall, the expectations for a full professor are higher than those of an associate professor. This distinction is difficult to quantify but as a rule, full professors should have acquired and maintain a prominent international reputation. Ideally, they should be elected APS Fellow (or equivalent) during the height of their career. In addition, service expectations are greater for full professors.

6. Raise determination:

There are two types of raises: 'across the board' and 'merit' raises. I have no influence on the 'across the board' (ATB) raises, except that one needs to 'meet expectations for rank' in order to be eligible for an ATB raise. The raise amount is a certain percentage of your annual salary, as announced by the university administration (and by local media).

Merit raises will be based on your overall score in the annual performance rating. For instance, if the merit pool is determined at 3%, the department could in principle spend up to three percent of the total salary pool for allocating merit raises. However, the College withholds a small percentage in order to fund supermerit raises across the College, meaning that I can only allocate up to say 2.75%. When appropriate, I will nominate up to two faculty members for a supermerit raise. I usually set aside 20% to 30% of the merit pool amount in order to address issues such as salary inequities that are unrelated to faculty performance (e.g. issues due to salary compression), market adjustments, etc. The College issues specific guidelines on how to identify salary inequities, and I take a careful look at each individual case. The remaining 70-80% of the merit pool is distributed based on your overall score in the annual

evaluation. Here, points on your annual evaluation are translated into fixed dollar amounts (as opposed to salary percentages). Otherwise, the high earners would receive bigger raises than 'low-earners' for identical performance. It would also rapidly deplete the merit pool at the expense of lesser earners. Everyone who receives a 'meets expectation for rank' in his/her overall performance rating is eligible for a merit raise.