

Astronomy & Astrophysics Normal Merit Standards for the Ladder Rank Series

February 8, 2024

Faculty are evaluated on their research, teaching, and service to the department, university, professional scientific community and society, as well as their contributions to diversity in support of these efforts. Faculty are expected to adhere to the highest standards of integrity in teaching, scholarship, and treatment of students, colleagues, staff, and other university community members.

Research

All faculty are expected to maintain a productive research program directed at understanding basic and/or applied problems in astronomy and astrophysics. Productivity is judged primarily on the impact of published work on their chosen area of study and its greater impact on astrophysics and the public understanding of science. A single, simple metric is ineffective in evaluating research and research “productivity”. The department letter must describe the context of the research for each faculty member under review, clearly outlining the standards of merit as gauged by the impact of the research within the relevant research area.

For collaborative work, faculty are expected to clearly document their individual contributions to collaborative publications, if not sufficiently clarified in the Biobib, to assist in the evaluation of their research productivity and independence.

Prior to their tenure evaluation, Assistant Professors are judged largely on their progress in establishing an active, innovative and productive research program, with the expectation that their work has been published in appropriate journals. Tenure will be considered when these benchmarks have been achieved, and a sustainable, positive research trajectory established. In progress research manuscripts can play an important role in demonstrating a research trajectory; these should be either available as preprints, submitted, or close to submission so that reviewers can judge the quality, novelty and impact of the research. Evidence of successful mentoring and supervision of a research group is also important in demonstrating a positive research trajectory.

Following tenure, the department seeks an evaluative discussion of the impact of the research record. The expectation for a normal merit increase is approximately 1-3 high quality peer-reviewed research publications and/or published proceedings from high profile technical conferences per year, where the faculty played a major contributing role and is sole author, a primary author, or a leading co-author. The number of publications is relevant when evaluating productivity, but the publication rate alone does not convey the impact of a research record. For

example, new projects may take several years to be ramped up and yield scientific publications. The department letter must clearly define nuances of these standards for the specific areas of research in a faculty member's subfield. The impact of research may be established by evaluating a number of factors, including: the citation metrics for published work, the impact factor (quality) of journals where the work is published, invited talks, awards, new grants, deployment of a new instrument, and other measures of the influence of the work on the faculty member's field of research. How often papers are cited is a reasonable indicator of impact, but in some fields, citations are more relevant over the time frame of a career, not over the time frame of a review cycle. Absolute numbers of citations can vary dramatically amongst different fields/subfields, depending on the level of activity in the specific research area.

As faculty progress through the ranks, there is an increasing expectation for national and international recognition. This may be evidenced by invitations to external seminars or conference presentations, election to fellowship of professional societies or academies, and by competitive awards. Professional service as described below will also provide evidence of a faculty member's stature in their profession. Generally, promotion to Full Professor requires some evidence of national recognition, advancement to Step VI requires clear evidence of national recognition, and advancement to Above Scale requires evidence of international recognition.

Teaching and Mentoring

All faculty are expected to maintain a standard teaching load established by the department and are expected to strive for excellence in their teaching. Teaching excellence is not simply measured by the student perception surveys, but rather by several factors that contribute to effective teaching and lifelong learning, such as proficient knowledge of the course material, preparedness for class, ability to explain the course material well and concern for student learning. Although the department takes note of measures such as student evaluations, these can be affected by bias with regards to certain demographic groups. Teaching effectiveness will be evaluated through a holistic review of teaching materials including a faculty member's teaching statement, syllabi, student testimonials, and other materials. Excellence in teaching can also be evidenced by efforts to boost student success by innovation and/or development in course design or curricular revision.

The department expects faculty to maintain a positive mentoring environment in their teaching and research. As well as mentorship of their own trainees, faculty are expected to serve on doctoral thesis committees and to pursue informal mentorship opportunities. Faculty are responsible for the training and mentorship of all members of their research group, including undergraduate researchers, graduate students, postdoctoral scholars, and research and technical staff. The department evaluates the effectiveness of mentorship and training in terms of the

outputs attributable to trainees and their career outcomes, as well as by unsolicited and sometimes solicited feedback from mentees. Solicitations for mentee feedback are made by, and at the discretion of, the department chair, acting in consultation with the ad hoc committee. Solicited feedback is restricted to cases where additional information is required to address uncertainties in the mentoring record of the faculty member under review.

Service

Faculty are expected to constructively engage in the life of the department, beginning with participation in faculty meetings, seminars, and recruitments. All faculty are further expected to contribute to the effective running of the department through committee service. Full Professors are also expected to participate in the governance of the university through the Academic Senate or other campus or system wide activities. The service expectations of faculty rise as they advance in rank and step. If the university service record is deficient at the Full Professor rank, then merits and accelerations are unlikely without extenuating circumstances. For advancement to Step VI and Above Scale faculty are expected to have substantial university-wide service, beyond their department and/or school.

In addition to campus service, faculty are evaluated based on service to their profession, such as peer review or editorial service for journals, peer review of grant applications, conference organization or chairing, and service to professional societies, foundations, or for government agencies. Such service can provide further indications of national and international reputation. Public service, outreach, and community engagement are also considered professional service.

Contributions to Diversity

The University of California San Diego is committed to excellence and equity in every facet of its mission. Teaching, research, professional and public service contributions that promote diversity and equal opportunity are encouraged and given recognition in the academic personnel process. These contributions to diversity and equal opportunity can take a variety of forms including efforts to advance equitable access to education, public service that addresses the needs of California's diverse population, or research in a scholar's area of expertise that highlights inequalities (APM 210-1-d). The department encourages faculty to include in their file their contributions to diversity as these efforts are encouraged and given due recognition in the evaluation of the service, teaching and research categories of the academic personnel process.

Accelerations

Accelerations are only proposed when the full impact and importance of the research record – e.g., as measured by the quality and quantity of publications and the journals in which they are

published, citations, commissioning of a major new instrument, or other documented metrics – significantly exceeds normal “expectations” as outlined above, considering the norm of productivity in the field and the faculty member's past productivity. The department bylaws describe the process for proposing accelerations. The Academic Senate Committee on Academic Personnel (CAP) has described the general expectations for accelerated advancements as research/creativity being at least twice that expected throughout one review period. Since the department most highly values the quality and impact of publications and not their number, evaluating a research record as twice that expected in any one review period is not based on the number of publications alone. In agreement with CAP, the department recommends accelerations if a faculty member’s research record are documented as especially impactful through a holistic view including number of publications, quality of journals, number of citations, invited talks, awards, major new research grants, deployment of a new instrument, and/or other documented measures of influence and impact on the discipline and the scientific community.

In addition to research accomplishments exceeding expectations, both teaching and service as well as contributions to diversity are also taken into consideration in determining the appropriateness of a recommendation for acceleration. Exceptional teaching and service may be used to bolster a request for a research-based acceleration but in and by themselves do not justify accelerations. Accelerations will not be considered if there are any substantive weaknesses in teaching or service performance throughout the period under review.

In cases where the research record alone merits recommendation for acceleration, the addition of an outstanding teaching or service record may serve as the basis for recommendation of an additional bonus off-scale.

Two-step accelerations or “double accelerations” are only recommended for truly outstanding events in a faculty member’s career. These should be considered once-in-a-career events, merited by the highest levels of outstanding recognition and external validation of professional distinction and achievement. A productive research record, even beyond the “twice that expected” level and with outstanding teaching and service, does not merit recommendation for a two-step acceleration.

Career Equity Review

A Career Equity Review (CER), or recalibration, is available to faculty (excluding those at the LPSOE, Assistant, or Above Scale levels). A CER may be requested only once while the faculty member is at the Associate Professor level, once while at the Full Professor level prior to advancement to Professor, Step VI, and once after advancement to Professor, Step VI, prior to advancement to Above Scale. The decision to initiate a CER rests solely with the faculty

member, and may be initiated by the faculty member only at the time of his or her regular on-cycle academic review. For more information see PPM 230-220-89:

<https://adminrecords.ucsd.edu/PPM/docs/230-220.html>