POLICY: Retention, Tenure, Promotion for Faculty in the Department of Integrative Biology
FROM: D. F. Tomback, Acting Chair
APPROVED: September 29, 2010
APPROVED: Provost, December 19, 2013
VOTE: Motion to approve revisions from Associate Professor Charles Ferguson, second of motion from Associate Professor Leo Bruederle. Vote: 7 tenured faculty eligible to vote; 6 in favor, 1 opposed.

This policy specifies and describes the criteria for 1) tenure and promotion for Assistant Professors, 2) promotion for Associate Professors, and 3) post-tenure review of tenured faculty members in the Department of Integrative, Biology at the University of Colorado Denver.

Tenure and Promotion to Associate Professor

Here, the criteria for tenure and promotion for Assistant Professors with a standard evaluation (40% research, 40% teaching, and 20% service) are specified and described. These criteria are regarded as transitional. The recently consolidated University of Colorado at Denver and University of Colorado Health Sciences Center, renamed the University of Colorado Denver (CU Denver), has received a Carnegie Foundation classification of Research University, Very High Research Activity (RU/VH). Although in the near future, requirements for tenure and promotion will become commensurate with this high-level research designation, immediate obstacles to performance include comparatively high teaching loads, no doctoral program, no tuition support for graduate students, insufficient staff support, and a comparatively small tenure-track faculty with limited opportunities for collaboration. As these challenges are gradually mitigated and connections with the Anschutz Medical Campus (AMC) are forged, the RTP criteria will be revised, potentially every three to five years.

The tenure and promotion criteria described below apply to all new tenure-track Assistant Professors hired in the Department of Integrative Biology beginning AY 2010-11. Current untenured faculty may opt to select these new criteria rather than those that applied when they began their academic appointments at CU Denver. The guidelines described here concerning promotion to Full Professor and Post-tenure Review, however, will apply to current tenured faculty, because no departmental policy existed previously.

Principles
The Laws of the Regents of the University of Colorado have delineated both the procedures for tenure evaluation and the criteria for tenure and promotion under Administrative Policy Statement 1022, Standards Processes and Procedures for Comprehensive Review, Tenure, Post-Tenure Review and Promotion. The standards of performance for tenure are as follows: “Tenure may be awarded only to faculty members with demonstrated meritorious performance in each of the three areas of teaching, research or creative work, and service, and demonstrated excellence in either teaching, or research or creative work...” The process leading to award of tenure is a summary evaluation of a faculty member’s cumulative performance and is a process that is separate and distinct from the annual merit performance evaluation.” The faculty of the Department of Integrative Biology subscribes to the belief that past performance is a valid predictor of future performance; that is, strong accomplishment in research, teaching, and service during the pre-tenure period is a good indicator of continued productivity after tenure is awarded. Therefore, it is imperative for faculty to show continuing accomplishment prior to tenure evaluation. A burst of activity at the end of the pre-tenure period is not sufficient to demonstrate the potential for on-going accomplishment and the attainment of excellence.

Research

The academic discipline of biology is comprised of a highly diverse array of subdisciplines, each differing in methodology and recognized avenues for investigation, and each approaching the study of biology at a different level of organization, from cellular and molecular through ecological and evolutionary to integrative and systems-wide. These subdisciplines also vary in the nature of the questions asked, federal and state funding opportunities, competition for funding, rate at which research data may be amassed, volume of data required to publish a single paper, and difficulty of publishing in top-tier journals. Thus, it is difficult for a researcher in one subdiscipline to effectively evaluate the research progress and accomplishments of faculty in other subdisciplines. Furthermore, the size and competitiveness of start-up packages have varied over the last few years in the Department of Integrative Biology. Considering all factors, expectations for publication and external funding will differ according to field and for each junior faculty member. Therefore, the criteria discussed below will rely heavily on the evaluation of outside reviewers within a subdiscipline, in addition to the opinion of tenured faculty in the Department of Integrative Biology.

Criteria and standards. The principal accomplishments expected for tenure and promotion are, in order of importance: 1) an established and active research program with a record of publication in relevant peer-reviewed journals, based primarily on data gathered during the Assistant Professor’s pre-tenure period at CU Denver; 2) significant contribution to the advancement of a subdiscipline of biology through publication, as acknowledged by external reviewers within the subdiscipline; and 3) submission of one or more proposals for federal funding (> $100,000), and attainment of funding, or, given a publication record exceeding expectation in both quality and quantity, good reviews and high ranking of a proposal by granting agencies, thus validating the ideas and methodologies set forth.
Record of publication or accomplishment. The most important demonstration of research progress and accomplishment is publication in peer-reviewed journals. Invited book chapters and invited symposium contributions are further demonstrations of peer recognition, but are supplementary and not primary evidence of research, even if peer-reviewed. As stated above, the rate of publication, competition for space in first-tier journals, and the length and depth of published papers vary greatly among the subdisciplines of biology. The Department will rely on both the judgment of external reviewers and tenured faculty as to the sufficiency of the publication record.

For the normal seven year pre-tenure period, at least one publication (or in press paper) is expected by the fourth year comprehensive review. In all cases, the majority of the work for the publication should be accomplished during the faculty member’s tenure at CU Denver. Papers published prior to the comprehensive review based in part on work conducted while the candidate was at another institution will strengthen the case for the candidate if some steps in completing the paper (e.g., additional research, data analysis, and/or writing) were accomplished at CU Denver. However, these papers will not substitute for the requirement of one or more published or in press papers based primarily on work accomplished while the faculty member is at CU Denver.

At least three additional publications beyond those required for the comprehensive review are required of all faculty for her/his tenure and promotion dossier. These three publications must include the CU Denver Department of Integrative Biology affiliation as the main institutional address and not just the “current address.” Furthermore, this minimum number should not be viewed as sufficient, unless these publications are important contributions and published in top tier journals within a discipline. Again, the decision as to how many publications are ultimately sufficient for tenure will vary greatly by research subdiscipline.

Papers based on data gathered at a previous institution, but some measure of analysis and writing occurred at CU Denver, will help build the case that the candidate is productive in research. Often, these papers represent obligations to prior mentors, and timely completion demonstrates a good work ethic. However, all research for the minimum three papers beyond the comprehensive review must be completed during the faculty member’s tenure at CU Denver, and not contributed from previous work. Collaborative research is both advocated and encouraged, as are multi-authored papers, but in such cases contributions of the faculty member must be documented. If an important data contribution to a paper was principally produced with the aid of graduate students or postdoctoral fellows within the faculty member’s research lab, the resulting publication will also be favorably regarded. In fact, collaboration with graduate students signifies an active research program and is expected of all tenured and untenured faculty.

Quality of research program and contribution to the subdiscipline. Simply publishing some minimum number of publications will be considered inadequate — publications need to meet two important criteria. First, do the questions asked or hypotheses tested demonstrate innovative thinking? And second, are the data generated of high quality, providing some
elucidation of questions or hypotheses? In some cases, review and synthesis papers meet these criteria, especially if published in high impact, peer-reviewed journals. Research papers based on original data, however, are the preferred indicators of a state-of-the-field, productive research program. Regardless, an essential question for the tenure and promotion evaluation process is whether the published papers have had an impact on the faculty member’s subdiscipline — in other words, has the research advanced a particular field. Although the external reviewers, who are chosen for their accomplishments within a particular subdiscipline, are best able to address this question, it is ultimately the obligation of the candidate to demonstrate the importance of any papers, e.g., using journal acceptance rates, impact factors, Eigen factors, or science citation indices.

**Research program at CU Denver.** A newly hired Assistant Professor should begin to organize and equip her/his laboratory immediately upon arrival at CU Denver and begin research as soon as possible during the first academic year. It is important to begin generating research data early, using start-up funds strategically. The faculty member is encouraged to hire technical support, if needed, recruit competent and motivated graduate and undergraduate students to help with research, and establish collaborations with other faculty members at the CU Denver Anschutz Medical Campus (AMC), or at other universities or governmental agencies. Evidence of an active research program based in the Department of Integrative Biology at CU Denver is very important.

**Proposals for federal funding.** During the pre-tenure period, Assistant Professors are expected to develop and submit major proposals for federal funding, either as sole principal investigator (PI) or in collaboration with other investigators. First of all, funding ensures continued support for an investigator’s research program, which CU Denver alone cannot provide. Second, the process of writing a proposal entails innovation, organization, and clarity of purpose, and often can lead to new avenues of investigation and inspiration, regardless of funding outcome. Furthermore, proposal reviews provide constructive suggestions for new researchers, and can head off potential problems.

We recommend, however, that pre-tenured faculty make strategic decisions about when and how many large grant proposals to submit prior to the comprehensive review process. Often, start-up support, small federal grants, and non-federal sources of funding suffice to enable a faculty member to collect publishable data. Major grant proposals are unlikely to be successful without convincing pilot data and a sufficient publication record in the area of research; grant writing can take time from writing manuscripts for publication. It is expected that faculty will make use of start-up funds to generate these data and establish the publication track record. Mentoring committees for junior faculty can help provide input as to these decisions.

Receiving federal funding will be considered an important accomplishment towards tenure; an award represents peer validation of a faculty member’s research plans and methods, as well as providing financial support for an active research program. Smaller competitive grants are also useful for supporting research in some subdisciplines. However, federal funding and other grants will not substitute for a record of peer reviewed publications. Although tenure and
promotion are possible without federal funding, if the research contribution is of considerable quality and impact, it is expected that funding to sustain the research program will be obtained.

Other evidence of research progress. Faculty members are urged to attend a minimum of one professional meeting a year on average, and present research in oral or poster format. Invited seminars or symposium contributions at meetings are also taken as peer validation of contribution. Although these presentations by themselves count minimally towards tenure, together they present a picture of a faculty member who is professionally engaged, and recognized for her/his work within a field.

In summary, an assistant professor seeking promotion with tenure is expected to have a record of publication including at least four papers in peer-reviewed journals, funding of one federal grant proposal or good reviews for an unfunded proposal, and participation in professional meetings, which together indicate a research program that has advanced the profession while being sustainable at CU Denver. Faculty seeking excellence in research, however, should be recognized for important or innovative contributions to their subdiscipline. In addition, they must have a strong record of publication in highly reputable journals, with publication numbers exceeding the aforementioned minimum. They should also receive significant external funding. Their contributions should be validated by invitations to present seminars or symposium papers, or awards. Ultimately, it is the responsibility of the faculty member to make the case for excellence in research.

Teaching

All Integrative Biology tenure-track faculty are expected to become dedicated and competent teachers at both the undergraduate and graduate levels. In addition, tenure-track faculty are expected to act as primary advisors and committee members for graduate students in Integrative Biology, but may mentor students from the M.S. program in Environmental Sciences and other interdisciplinary programs. Tenure-track faculty are also encouraged to participate on graduate committees from the AMC and other campuses of the CU system, as well as those at other colleges and universities. Mentoring of undergraduate students in research is also considered an important teaching activity.

Criteria and standards. The principal teaching accomplishments required for tenure and promotion are as follows: 1) quality course design; 2) competent and clear course instruction and materials; 3) satisfactory student evaluations (Faculty Course Questionnaires or FCQs) and peer reviews; 4) serving as primary thesis advisor and committee member for graduate students in biology and other programs; and 5) serving as research mentor for undergraduate students.

Well-designed courses; competent and clear course instruction and supporting materials; and strong evaluations. There are many approaches to good teaching, and no particular formula is recommended. However, there are general skills and qualities that are shared by effective teachers. Expectations include: designing courses that provide reasonably thorough, accurate,
and balanced overviews of subject areas at appropriate levels of rigor with sufficient challenge, even for the best students; assembling a clear syllabus with course policies that provide clear expectations for students; providing helpful and well-designed supporting materials; developing good organization, communication, and presentation skills; preparing and planning sufficiently prior to each lecture; employing available technology, if appropriate, as course enhancements; using current and well-regarded texts; routinely updating course materials with new and relevant findings; testing with rigor and fairness; and, being accessible and helpful to students.

The effectiveness and quality of classroom teaching are expected to be reflected in good FCQ scores, as measured for those items that reflect quality of instruction, and not necessarily popularity of courses or instructors (see teaching policy on annual merit review).

Truly excellent teaching may be distinguished from otherwise effective and competent classroom approaches by the implementation of innovative teaching techniques, by high levels of classroom interaction and faculty rapport with students, and by demonstrated leadership in course curriculum development which includes both a state of field and synthetic disciplinary perspective. The value of novel classroom activities or teaching styles must be clearly demonstrated — they must result in improved critical thinking and learning skills by students, as demonstrated by planned assessments or favorable peer reviews either from within or outside the department. We also value publishing papers in science education journals that describe and validate new teaching techniques, as well as submitting grant applications to implement new teaching methods, if appropriate. NOTE: Pedagogical research that is hypothesis driven, statistically rigorous, and published in highly reputable journals will be considered as evidence of meritorious or excellent research in science education.

**Graduate and undergraduate student research mentoring.** Mentoring research students is another form of evidence for effective teaching. Faculty members are expected to collaborate with graduate students as they conduct their research, with most also involving undergraduates. Whereas graduate students are often completing a research project in partial fulfillment of a graduate degree, undergraduate students may vary in how much responsibility they assume by virtue of level of intellectual maturity or time restrictions; that said, some undergraduates are capable of contributing at a very high level. Regardless, the faculty mentor should provide a nurturing learning environment, allowing students to acquire the knowledge and protocols standard to a field or specific line of investigation, yet encouraging independent thought and ideas while also reinforcing student understanding of the scientific method. Furthermore, faculty members are always obligated to convey to all students involved in research the high ethical standards of science.

Excellent mentors of undergraduate and graduate students should be role models who instill passion for and dedication to scientific research in biology; they should inspire student interest in their subdiscipline, in particular. We expect that research students will attend professional meetings with their mentors and co-author posters and oral papers as well as publications. Excellent mentors should inspire their undergraduate students to continue their education after graduation by entering graduate or professional schools. Similarly, graduate students of
excellent mentors are expected to complete their degrees and either go on to graduate or professional schools to obtain more advanced degrees or enter careers related to their training.

**Evaluation criteria.** As mandated by the Laws of the Regents, and emphasized herein, the assessment of teaching must involve multiple means of evaluation. These include Faculty Course Questionnaires (FCQ), unannounced classroom visits, peer review of course materials, including laboratory and recitation exercises, and outcomes assessment, in addition to other lines of evidence (e.g., awards) in order to construct a full picture of a faculty member’s performance in the classroom. In some cases, there may be evidence of pedagogical innovation. Evaluation should also assess the extent and quality of mentoring undergraduate students in research, extent and quality of mentoring and advising graduate students, and contribution to graduate thesis and dissertation committees. An additional measure is whether students who have been mentored continue on for advanced degrees in graduate or professional schools, or whether students obtain professional jobs in their field after completing their degree. These diverse forms of evidence should be used collectively to describe the total teaching contribution by a faculty member. Faculty members who teach large courses, departmental core courses, or lab-based courses should also be recognized for the extra work involved therein.

Summarizing, meritorious classroom teaching by an assistant professor seeking promotion with tenure should be validated by good FCQ scores in areas that relate to quality of instruction rather than popularity. Peer review should substantiate that courses are well-organized and sufficiently challenge students with state-of-the-field content, well-designed course materials, and that faculty have strong communication skills. In addition, tenure-track faculty are expected to mentor 2-3 graduate students at any given time, while also serving on graduate committees, with mentoring of undergraduate students counting for some of this activity.

Excellence in teaching is indicated by very good to superior FCQ scores; supported by peer review of class organization, course content, supporting materials, and communication skills; and, further distinguished by innovative teaching techniques, highly interactive teaching styles, and leadership in curriculum development. Students of excellent mentors will disseminate their research findings at professional meetings and in peer-reviewed journals, and be successful in pursuing careers in their chosen field or gaining admittance into graduate school. Excellence in teaching should be supported by other evidence, as well, including but not restricted to pedagogical publications, grant funding related to teaching, and teaching awards.

**Service**

Service by faculty is both an obligation and a privilege, because many aspects of the university are governed by faculty or require faculty input, as determined by bylaws or policy. Although faculty members are expected to engage in service at multiple levels — Department, College, University, and CU System, profession, and society — untenured faculty are discouraged from investing large amounts of time in service activities. That said, tenure-track faculty members should begin developing some record of service shortly after coming to CU Denver.
**Recommended service activities.** Reiterating, tenure-track faculty should assume limited service responsibilities prior to the comprehensive review. All proposed service responsibilities require consultation with the Department Chair and should be approved by the faculty member’s mentoring committee. Departmental level service and some professional service are both strongly recommended at this early career stage. Involvement in professional service includes serving on governing boards of scientific societies, editorial boards, organizing symposia at meetings, and serving on society committees, providing that time demands are limited. In addition, all faculty members should be engaged in reviewing papers for scientific journals and grant proposals, but with discretion as to time commitment. Professional service is regarded favorably, as it enables an untenured faculty member to network and achieve name recognition with others in the same general field. Other professional service includes serving in an advisory capacity to federal agencies and non-governmental organizations, and on grant review panels.

Beyond the comprehensive review, untenured faculty should increase their service commitments judiciously, participating on committees both within and outside the university. The mentoring committee and department chair may make recommendations, based on the individual interests of the faculty member.

**Evaluation criteria.** For the comprehensive review, the faculty member should, at minimum, provide service to the Department as an involved and conscientious faculty member, including attendance at faculty meetings, serving on standing committees, and executing competently, and within the designated timeframe, all assigned responsibilities. Additional service at multiple levels beyond the department level as described in the previous paragraphs will be expected for meritorious achievement for tenure and promotion. To achieve excellence in service, a junior faculty member should either be making one or more significant professional contributions, such as serving as a journal editor, a society president, or on an NSF or NIH panel, or making a significant contribution to the department, college, campus, or system, such as organizing a major event, writing a planning document, or serving in some important leadership capacity.

**Promotion to Professor**

Here, the Faculty of the Department of Integrative Biology specify and describe the criteria for promotion to rank of Professor from Associate Professor. The criteria are in a state of transition and take into consideration the challenges to doing competitive state-of-field research, as discussed above. Nonetheless, a strong record of accomplishment is required for promotion to Professor.

**Principles**

The Laws of the University of Colorado Regents have delineated the criteria for attainment of rank of Professor under [Administrative Policy Statement “Standards Processes and Procedures”](#)
**Criteria and standards.** Expectations for accomplishments and workloads for candidates for full professor surpass those required of tenure-seeking faculty, given that research productivity, teaching skills, and service workload and effectiveness should increase over time. The candidate’s record should demonstrate a significant contribution to undergraduate and graduate education and indicate substantial, significant, and continued growth, development, and accomplishment in all academic endeavors.

**Research, Scholarship/Creative Work.** Candidates for promotion to Professor must have earned recognition as a contributor to the advancement of a particular subdiscipline or area of inquiry in biology, as validated by internal evaluation and by external review. It is expected that a candidate faculty member will have a strong record of accomplishment in publication, external funding, and other forms of scholarship that together reveal an active, innovative, and sustainable research program. The latter may be manifested in many ways that demonstrate leadership in advancing a subfield of study, such as by invitations to collaborate on new research projects; write review papers or commentaries for first tier journals; present research seminars or participate in symposia; participate on editorial boards; conceive and lead workshops within a subfield; present plenary lectures; and, serve on proposal review panels for NSF, NIH, or other federal funding agencies.

**Teaching.** Candidates are expected to have achieved a high level of effectiveness and competence in the classroom at both the undergraduate and graduate level based on multiple means of evaluation, as discussed elsewhere. Faculty members are also expected to have a
strong record of mentoring students, and especially graduate students, in research, with frequent participation on graduate committees. Publication in collaboration with undergraduate and graduate students as well as postdoctoral students is assumed. Furthermore, it is expected that many of the research students mentored by a faculty member will be inspired to continue their professional education or be successful pursuing careers in biology.

**Leadership and Service.** The successful candidate is expected to have achieved and maintained a strong record of service to the Department, in particular, and at all campus levels, including the University. The importance of this cannot be understated, as most high-level service should fall to tenured faculty members holding the rank of full professor, thereby protecting assistant and associate professors seeking promotion. The candidate is also expected to have served his/her professional field in a variety of capacities.

**Post-Tenure Review**

Post-tenure review is mandated every five years for tenured faculty, both at the Associate and Full Professor levels. All tenured faculty are expected to maintain productive research programs leading to publication, obtaining external funding, and presenting research at professional societies. They are expected to continue to teach with effectiveness and competence in the classroom while mentoring graduate and undergraduate students in research, as well as engage in service to the Department, University, and profession.

The post-tenure review evaluates accomplishment during the five previous years, and is informed by the five previous Annual Merit Reviews and other materials described in the Post-Tenure Review Policy. Based on a review of these materials, faculty undergoing post-tenure review are rated Outstanding, Exceeding Expectations, Meeting Expectations, or Below Expectations. The Department of Integrative Biology has opted to have the Post-tenure Review Committee of the College of Liberal Arts and Sciences perform the evaluation.