

# 6.9 Demonstration of attainment of promotion criteria for research faculty

## Governing policies

Section 8, Faculty Handbook – Promotion and Tenure

## PROCEDURE

This section seeks to define clear expectations for Mines research faculty members regarding promotion. Reviewers at all levels shall consult this document -- in conjunction with pertinent sections of the Mines Faculty Handbook -- and consider these criteria in evaluating promotion applications. Guidelines and expectations for each promotion step are provided below. In the event of a conflict between the Handbook and this document, the Handbook shall prevail.

The following expectations for promotion are cumulative, as a research faculty member being considered for promotion at a higher rank shall meet all the expectations for that specific evaluation as well as all the expectations for lower-level advancements.

The hiring process should be considered a first step in the promotion process. Mines expects that evaluations of research faculty candidates consider each candidate's qualifications and projected future development relative to promotion expectations; it is also important that the promotion expectations are communicated to the prospective candidates.

### A. ADVANCEMENT FROM ASSISTANT RESEARCH PROFESSOR TO ASSOCIATE RESEARCH PROFESSOR

The University's expectation is that all research faculty members will build records that include sustained and impactful contributions in scholarship and mentoring. Those receiving favorable recommendations for promotion will have a record of accomplishments such that evaluators conclude that the applicant can and will continue to contribute to the research goals of the Department, portfolio, and Mines at a level expected of Associate Research Professors.

The following are expected:

- Demonstrating quality mentoring and the successful completion of graduate students at the PhD or MS-thesis levels (meaning candidates should have requested and received Graduate Faculty Status) where graduate programs exist, and/or evidence that current PhD students are on track to graduate (e.g., published journal papers, outputs of research co-authored by graduate students, completed milestone exams, etc.). Evaluators may also consider the post-graduate placement and career success of graduated students as indicators of successful graduate student mentoring. Significant mentoring, supervision, or participation in non-thesis master's programs may also be relevant.
- Demonstrated potential for national professional recognition.

- Impactful and sustained scholarship, which may include entrepreneurial outcomes.
- Demonstrated ability to attract external resources as needed to support a strong scholarship program.
- Demonstrated effectiveness in creating an academic environment that is open, supportive, and encouraging to all students, including development of particularly effective strategies for the educational advancement of students in various underrepresented groups.
- A history of professional and respectful interactions with other faculty members, students, and staff, within Mines, including collaboration and constructive cooperation in teaching, scholarship, and service, without hostile, demeaning, aggressive, disrespectful, or exploitative interactions with faculty members, staff, or students.

### Examples of activities that demonstrate impactful and sustained scholarship (which may include entrepreneurial outcomes) for those promoted to Associate Research Professor may include:

- Peer-reviewed archival publications, including journal articles, book chapters and monographs, and peer-reviewed conference presentations/publications, including publications with mentored students. Candidates should provide supporting evidence (for example, press coverage, journal acceptance rates) that will yield insight into the quality and impact of any work reported.
- Documented use of the output from the candidate's research and entrepreneurial activities by others for their research and entrepreneurial activities, where examples might include working with industry, governments or municipalities to enhance operations via translation of technology into practice; citations in policy briefs or policy papers or involvement in the development of industry guidelines; providing expert input to media offerings; or serving as an expert resource for written, broadcast, or internet media. Such activities may also include local, national, or international community outreach.
- Successful proposals garnering external support of research activity as needed to support a strong scholarship program.
- Demonstration by Assistant Research Professors that they have moved well past the research of their terminal degree and are successful at establishing new and productive lines of inquiry, with a trajectory that indicates a career of sustainable and impactful scholarship.
- Development of special facilities to support research activities for multiple faculty members and student researchers at Mines.
- Invitations to give talks at regional, national or international meetings, or at other universities/research centers.
- Invention disclosures, patent applications, and patent awards.
- Creation of new commercial entities or organizations that will incubate, develop, and deploy technologies resulting from research or transfer results from research into existing commercial entities.
- Meaningful contributions to science and technology policy or societal debate, development, and deployment. Examples might include testifying as an expert in front of state or national legislatures or international governing bodies, writing white papers supporting the development and implementation of appropriate policies or community engagement strategies.
- In certain fields, such as the arts, humanities, and social sciences, distinguished creation should receive consideration appropriate for these disciplines. In evaluating creativity, an attempt should be made to define the candidate's merit in the light of such criteria as

originality, scope, richness, and depth of creative expression, as per accepted standards in those fields.

## **B. ADVANCEMENT FROM ASSOCIATE RESEARCH PROFESSOR TO RESEARCH PROFESSOR**

Those receiving favorable recommendations will have achieved national and international recognition, including evidence of significant leadership in their field(s). The successful applicant will demonstrate detailed evidence for potential of continued scholarly excellence and leadership.

Candidates should demonstrate sustained performance for all expectations listed in Section A. In addition, candidates should demonstrate the following:

- Significant leadership in the candidate's field(s) that enhances the research faculty member's visibility and the visibility of Mines.
- National and international recognition and reputation.
- Success with mentoring and completion of graduate students at the PhD, MS-thesis, and MS-non-thesis levels, where those graduate programs exist.
- Institutional service to the Department and/or Programs and Mines is valued, but not required for promotion to Research Professor.

More details on possible paths to success are outlined below.

**Examples of activities that demonstrate impactful and sustained scholarship (which may include entrepreneurial outcomes) for those promoted to Research Professor may include:**

- Peer-reviewed archival publications, including journal articles, book chapters and monographs, and peer-reviewed conference presentations/publications. Candidates should provide supporting evidence (for example, press coverage, journal acceptance rates) that will yield insight into the quality and impact of any work reported.
- Documented use of the output from the candidate's research and entrepreneurial activities by others for their research and entrepreneurial activities, where examples might include working with industry, governments or municipalities to enhance operations via translation of technology into practice; providing expert input to media offerings; serving as an expert resource for written, broadcast, or internet media. Such activities may also include local, national, or international community outreach.
- Successful proposals garnering external support of research activity as needed to support a strong scholarship program.
- Development of special facilities to support research activities for multiple faculty members and student researchers at Mines.
- National and international awards for research activity.
- Invitations to give talks at regional, national or international meetings, or at other universities/research centers. International reputation is particularly important for promotion to Research Professor.
- Invention disclosures, patent applications, and patent awards.
- Creation of new commercial entities or organizations that will incubate, develop, and deploy technologies resulting from research or transfer results from research into existing commercial entities.
- Completion of graduate students that includes graduation of PhD students (depending on norms for the discipline at peer and aspirational peer institutions). Evaluators may also consider the post-graduate placement and career success of graduated students as indicators of successful graduate student mentoring. Significant

mentoring, supervision, or participation in thesis or non-thesis master's programs may also be relevant.

- Textbooks, reports, circulars, and similar publications normally are considered evidence of teaching ability or public service. However, contributions by faculty members to the professional literature or to the advancement of professional practice or professional education, including contributions to the advancement of equitable access and diversity in education, should be judged creative work when they present new ideas or original scholarly research.
- Meaningful contributions to science and technology policy or societal debate, development, and deployment. Examples might include testifying as an expert in front of state or national legislatures or international governing bodies, writing white papers supporting the development and implementation of appropriate policies or community engagement strategies; and participating in National Academy of Engineering, National Academy of Sciences, or National Research Council committees and panels.
- In certain fields, such as the arts, humanities, and social sciences, distinguished creation should receive consideration appropriate for these disciplines. In evaluating creativity, an attempt should be made to define the candidate's merit in the light of such criteria as originality, scope, richness, and depth of creative expression, as per accepted standards in those fields.

## **I. Guidance for evaluators on implementation of the criteria**

### **GENERAL**

Each committee and individual involved in the review process shall judge the candidate with respect to the criteria outlined in this document, evaluating whether the candidate is engaging in a program of work that is both sound and productive.

External reference letters should be given significant weight because often the best information on the candidate's level of performance relative to the norms of their discipline is discerned from the external letters.

The criteria listed in this document will also guide the determination of the appropriate academic status for individuals joining the faculty above the rank of Assistant Research Professor.

The examples listed in section I above are meant to be illustrative of items that candidates may document in a promotion dossier. Candidates are not expected to provide evidence of all the items listed as "examples" above.

### **SCHOLARSHIP**

The success and impact of graduate student mentoring and scholarship should be judged relative to norms at comparable programs at peer and aspirational peer universities. Candidates shall be evaluated with respect to applicable criteria in their fields and departments (or other loci of appointment). Such factors as graduating PhD or MS students, co-authorship with graduate students, the raising of research dollars, and the relative importance of certain research outputs such as conference papers and academic journals are field-dependent and should also be evaluated with respect to the standards and practices of the candidate's field(s). Accordingly, reviewers should recognize that metrics of performance are not the same in all disciplines, that many faculty members contribute to interdisciplinary programs, and that research faculty members from several different disciplines may be employed within a single department.

In evaluating the various activities and outcomes, quantity alone cannot be the deciding factor. The quality, significance, and impact of each contribution must be considered, ideally within the framework of the norms at peer and aspirational peer universities and programs.

## **DIVERSITY AND INCLUSION**

Contributions that promote diversity and equal opportunity should be encouraged and given recognition in the evaluation of the candidate's qualifications.

## **STANDARDS OF CONDUCT**

Professional and ethical behavior is also highly valued at Mines. There is an overarching University expectation that faculty and staff members exhibit the highest standards of personal integrity and professional responsibility as articulated in Section 6.2 of the Faculty Handbook. Applicants with evidence of hostile, demeaning, aggressive, disrespectful, or exploitive interactions with faculty members, staff, or students shall not be recommended for promotion.

## **PROMOTION TO RESEARCH PROFESSOR**

Every Research Professor at Mines is expected to be a research leader, contributing in a major way to the research mission of the Department, portfolio, and the University. It is not enough to be successful at a level of productivity that was sufficient for promotion to Associate Research Professor; there is an expectation of some qualitative difference in the scope and level of research contributions for the promotion to Research Professor. One might expect: the establishment of a substantial body of work that cements an expert's reputation; having multiple streams of inquiry in play; invitations to give keynote or other special presentations at conferences or universities, with national and international scope; leading interdisciplinary teams on more complex projects; collaborations with an expanding circle of colleagues, both at Mines and externally.

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