


Department of Computer Science  
The College of New Jersey  
Disciplinary Standards for Reappointment, Tenure, and Promotion

The attached disciplinary standards have been reviewed and approved by the Committee on Faculty Affairs, the Council of Deans, and the Provost.

To avoid creating a moving target for candidates for reappointment, the disciplinary standards in effect during a faculty member's first year of employment will be used for reappointment and tenure applications. Candidates for promotion will use the disciplinary standards in effect in the year in which they apply for promotion.

  
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Department Chair

8/21/15  
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Date

  
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Dean

8/21/2015  
\_\_\_\_\_  
Date

  
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Provost

8/20/15  
\_\_\_\_\_  
Date

The Department of Computer Science will next review its disciplinary standards in Academic Year 2020-21.

# **Computer Science Department Reappointment and Promotion Standards of Scholarship**

revised: May 2015

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This document is to be applied in conjunction with the adopted college-wide document on academic standards.

## **1. Core Standards and Background**

The Department recognizes that the Computer Science discipline is an evolving one with new sub-disciplines being created as technology advances. It is therefore imperative that faculty remain actively engaged in the discipline via ongoing scholarly activities throughout their careers. New interactions among research, education, and industry are needed so that students, faculty, and computing practitioners can maximize the utility of education throughout the broad range of intellectual and practical interests it serves. Depending on the institution and the individual, this might mean conducting research in traditional areas, developing new courses or teaching materials based on recent progress in the discipline, or conducting research in "non-traditional" areas such as curriculum and teaching methodologies themselves.

### **1.1 Background**

This document outlines the proposed interaction between faculty and the department's personnel committee for the purposes of faculty development and the integration of standards for tenure and promotion of the faculty. The proposed plan also seeks to establish a dialog between the tenure-track faculty member and the committee with respect to the integration of the faculty's sub-discipline interest and research areas with their role as a teacher-scholar.

It is not the intention to create additional steps in the tenure / promotion review process, but rather to ensure that a collegial dialog develops between the committee and the faculty member on an established schedule. In many cases, as faculty are added to the department, the research areas and publication venues appropriate to the sub-discipline may not be readily known to the committee. This conversation will begin to establish both a research / publication plan from the faculty member as well as an elaboration to the committee of the targeted publication venues. This will allow the committee to determine the appropriateness of the venues. The intent is that if the committee agrees that the venues will not be viewed in a favorable light at the time of application for tenure / promotion, changes to the faculty's plan can be integrated via consultation with the committee well advance of the submission of the application(s).

## **2. Departmental Standards for Scholarship**

### **2.1 Alignment with Key Institutional Documents and Language**

#### **2.1.1 Mission and Strategic Aspirations of the College and School of Science**

The College embraces the teacher-scholar model dedicated to free inquiry and open exchange. The College is also committed to integrating students in this process. The Department of Computer Science is committed to upholding the mission of the College and embraces the concept that a computer science teacher-scholar is a scientist who engages students in their research and creation of new knowledge. TCNJ computer scientists author scientific papers individually, with other scientists within and outside the discipline, and with students. As such, the Department expects that the candidate's scholarly program will reflect and be aligned with the mission and strategic aspirations of the College and School of Science, through scholarly activities that are conducted individually or in collaboration with others.

#### **2.1.2 Guiding Principles for Accomplished and Engaged Teacher-Scholars**

The guiding principles for reappointment, tenure, and promotion are closely aligned with those outlined in the

TCNJ Promotions and Reappointment document. Discipline-specific guidelines are defined in this document.

### **2.1.3 Undergraduate Involvement**

It is the Department's expectation that faculty will serve as mentors to undergraduates as they engage in knowledge discovery. Publications co-authored with students, and accompanying students to conferences are strongly encouraged. Integrating research interests into classroom activities is also encouraged.

## **2.2 Characteristics of a Scholarly Program**

It is the Department's view that a successful plan for scholarly activity exhibits a balance between continuity and flexibility. Continuity refers to the depth of knowledge achieved after years of specialized study. Flexibility refers to the ability to modify the direction of research as appropriate.

- Continuity - Research projects should generally be initiated (or continued) once employment commences in the department. Scholarship should be an ongoing activity though there may be periods when there is higher activity than at others. It is strongly suggested that these activities remain an integral part of a candidate's career.
- Flexibility - The body of research performed by a candidate should reflect a level of maturation. Generally, research work is considered to be a continually growing and evolving process, which advances the discipline. Over the course of time, the scholarly program should clearly reflect this growth and evolution. Many research efforts come to a maturation point where further work is not possible, or not practical given a variety of local conditions. It is anticipated that when this occurs, candidates will select other projects (perhaps continuing in the same research area, perhaps migrating to other research areas as their interests change).

## **2.3 Scholarly Outcomes**

### **2.3.1 Categories of tangible outcomes**

**2.3.1.1 Publications.** Publications in peer-reviewed venues, which include journals, books and conference proceedings form the primary standard of productivity that all scholars are expected to meet. This encompasses publications for all modes of scholarship including the scholarship of discovery, integration, application, pedagogy, and creative expression. It is expected that the faculty member will publish regularly in peer-reviewed venues. Although sustained scholarly activity is expected, the rate of publication may vary significantly over time. The faculty member will be expected to explain how the requirement of sustained scholarly activity is met, and will have the opportunity to justify any gaps in the publishing stream.

The primary venue for most scholarship in computer science is in national and international conferences that can vary from multidisciplinary venues encompassing a number of subfields, to highly specialized but also highly respected workshops in a narrow subfield. Determining the value of a venue is subjective in that it requires consideration for the reputation of the venue among established scholars as well as consideration for acceptance rates, and the procedure for peer review. Because of the fast pace at which the field is growing the value of journal publications in contrast to conference proceedings is problematic at best. Conference proceedings are often the most timely and competitive forum for work, providing a better benchmark for the value of the scholarship than some journal and book collection work. Some conferences are more respected than journals in those subfields. Some very broad journals are more magazine-like in content than some small workshop proceedings. Consideration for the weighting of venues therefore needs to be conducted on a case-by-case basis. Finally, many venues are moving to electronic forums in order to allow support for demonstration systems within the context of presentation of scholarship. At this juncture we need to keep an open mind regarding such venues, while we help the discipline define the potential value of such venues. For example, a peer reviewed virtual conference that requires submission of a secure demonstration system has significant value as does a self-maintained web site that disseminates scholarship and receives high "hit level" from a valued and identified audience.

Assigning quantitative value (e.g. weights) to quantity versus quality also needs to be adjudicated with care because a robust undergraduate program requires scholars from a variety of subfields with remarkably different modes of inquiry. We need to be aware that computer science scholarship influences and is influenced by a variety of fields including but not limited to Mathematics, Biology, Chemistry, Engineering, Physics, Psychology,

Communications and Media Studies, and Philosophy. We recognize and value both traditional venues of Computer Science research, as well as venues for research that crosses the boundaries between academic disciplines or schools of thought, as new needs and professions emerge. We expect our faculty to produce vetted reports on scholarly results. The number of publications and creative projects expected is also dependent on their quality, extent and the nationally established standards of the subfields of the individual faculty member.

Categories of peer-reviewed publications include:

- Books, chapters in books, both reviews of the field and textbooks.
- Journal articles under auspices of major professional organizations or respected academic publishers
- Peer-reviewed, full-length papers published in proceedings (with or without a presentation) of
  - Juried international and national conferences especially those sponsored by major professional organizations.
  - Juried regional conferences especially those sponsored by major professional organizations.
  - Emerging electronic venues (e.g. peer-reviewed virtual conferences).

Authorship should also be taken into consideration. Publications can be:

- Single-authored – The paper should be the product of research conducted by the candidate, ideally while employed at the college.
- Co-authored – In this case the order of authors is important unless authorship is truly collaborative and alphabetical.
- Student co-authorship – Undergraduate student mentoring is most valued when students co-author papers presented at any of the venues listed above. Papers co-authored by students are therefore highly valued. Credit should be given to faculty for student work published and presented at undergraduate venues.

**2.3.1.2 Grant proposals.** Items from this category that are deemed equivalent to publications in peer-reviewed venues can substitute for items in the publications category. Work as a PI, co-PI, or senior personnel is recognized.

Categories of peer-reviewed grants (ordered by decreasing significance) include:

- Funded, peer-reviewed competitive grants that support the research and teaching of the faculty and the department. This category typically includes external grants that are larger in scope, quality or importance of the scholarly research.<sup>1</sup>
- External funded grants that support faculty or student research which are smaller in scope, quality or importance of the scholarly research.<sup>1</sup>
- External large scope grant proposals that were not funded, but received positive peer reviews, and/or a resubmission of a grant proposal.

**2.3.1.3 Conference and meeting presentations of scholarly work.** These are a natural outcome of papers accepted to peer-reviewed conferences (as listed in Category 1) and are expected and highly valued. Such presentations may include:

- Keynote invited presentations
- Plenary invited presentations
- Contributed presentations of accepted peer-reviewed papers

## **2.3.2 Recognition in One's Field**

**2.3.2.1 Scholarly awards and prizes.** Institutional, organizational, societal and industrial recognition of research in the form of invited talks, lectures and other rewards are important for any practicing scientist and should be appropriately weighted and recognized.

### **2.3.2.2 Invitations to speak about one's scholarly work**

- Panelist, moderator at national or international conference.
- Invited speaker to special events at other institutions, not designated as a public conference, and can be targeted to the entire institution, a specific school, department or program.
- Invited speaker to industry.

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<sup>1</sup> Determining the value of a venue is subjective in that it requires consideration for the reputation of the venue among established scholars as well as consideration for acceptance rates, and the procedure for peer review.

**2.3.2.3 Review of scholarly work.** Another form of recognition as an expert in a field is the invitation to act as peer reviewer for a granting agency/foundation, scholarly journal or conference, monograph, or textbook. This should also be appropriately weighted and recognized.

## **2.4 Minimum Scholarly Requirements for Reappointment and Promotion**

The College's reappointment and promotions document intentionally leaves it open for individuals to be able to best craft their contributions to the profession and the institution. Therefore, the set of criteria given herein are to be regarded as flexible guidelines open to interpretation by the Department, rather than as a prescriptive list.

The requirements may be somewhat relaxed under circumstances when, as stated in the Promotions and Reappointment Document, "there may be periods when the level of scholarly activity is somewhat reduced (but not eliminated) due to a significant increase in teaching or service, such as serving as Department Chair."

### **2.4.1 Minimum Scholarly Requirements for Reappointment for the Seventh Year (with Tenure) and/or Promotion to the Rank of Associate Professor:**

Two publications as described in Section 2.3.1.1 and two more items from the following:

- A publication in a peer-reviewed venue of significant scope, quality or importance<sup>1 above</sup>, including the categories described above and commensurate with the scope of the work.
- A presentation at a juried or peer reviewed regional, state, national, or international conference or professional organization which appears in their published proceedings.
- An accepted book manuscript or monograph.
- A grant proposal as described in Section 2.3.1.2.

### **2.4.2 Minimum Scholarly Requirements for Promotion to Professor**

From the time of their promotion to Associate Professor, candidates for promotion to Professor should have demonstrated a sustained pattern of achievement since attaining the rank of Associate Professor with evidence indicating the maturation of the scholarly/creative/professional record. This should be in evidence by the following:

- Ongoing recognition of their scholarly work at the regional, state, national and/or international level
- Significant involvement of their undergraduates in research.
- Two further publications in peer-reviewed venues of significant scope, quality or importance<sup>1 above</sup>, including the categories described above. An accepted book or monograph whose quality is reflected in reviews, adoptions and citations may substitute for one of these papers,
- Evidence of ongoing recognition could be one or more of:
  - Invited presentations at juried or peer-reviewed regional, state, national, or international conferences or professional organizations.
  - A leadership role in consulting activities or professional organizations
  - Writing and obtaining grants.

A sustained scholarship can also be demonstrated through a significant work in progress whose fruition is either imminent or anticipated.