The Ad Hoc Committee on Research Scientist Titles Report

An Assessment of the Needs for a Research Professor Title on the University of Wisconsin – Madison campus

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Prepared for The Academic Staff Executive Committee

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EXECUTIVE SUMMARY

Introduction

The University of Wisconsin-Madison is a top academic research institution and continues to foster a strong research environment. Research scientists, and particularly those with terminal degrees, are vital components of this success. However, an evolving research landscape necessitates a re-evaluation of our current titling practices for Ph.D.-level research scientists at UW-Madison. Therefore, The Academic Staff Executive Committee charged the Ad Hoc Committee on Research Scientist Titles to review research scientist titling practices internally and at peer universities.

Our committee collectively agreed to focus on the Research Professor title, including its use, relationship to other Ph.D.-level research titles, and associated policies. We not only sought to understand whether and how peer institutions use the Research Professor title, but also how its implementation might affect the research mission of UW-Madison. In the following report, we present these findings and our resulting policy recommendations, which are provided in brief below.

Main Findings

- In our review, 19 out of peer 20 institutions (95%) have the Research Professor title, which is:
    - Distinct title series from other Ph.D.-level research scientists
    - Categorized as non-tenure track faculty at all institutions
    - 80% grant automatic Principal Investigator status to Research Professors

UW-Madison lags far behind our regional and research peers in introducing and implementing the Research Professor title.

- In our interviews across the UW-Madison campus with leadership within 10 units that employ research scientists we found:

    - In 8 of the interviews, the respondent believed it is more difficult for research scientists to acquire funding compared to faculty.
    - In 9 of the responses, the interviewee was in support of a Research Professor position on the UW-Madison campus
    - In 8 of the interviews, the person believed a Research Professor position would be helpful in the recruitment and retention of research scientists and address career opportunity issues.
    - All of the respondents believed the Research Professor position should have more than temporary PI status (i.e. automatic or blanket).

The leadership on the UW-Madison campus at several units that employ research scientists believes a research professor title would enhance the research mission on campus.

Summary of Notable Policy Recommendations

In order to remain competitive with our peers, maximize the potential of the nearly 700 current Ph.D.-level staff scientists, foster recruitment of new world-class research talent, and ultimately strengthen the research enterprise at the University of Wisconsin-Madison, we unanimously recommend the following changes to the current titling practice for Ph.D.-level research scientists at UW-Madison (the full set of recommendations can be found beginning on page 16):

1. Introduction of a Research Professor title track (Assistant, Associate, No Prefix, Distinguished) that is distinct from preexisting Researcher and Scientist title series.

2. Criteria for Research Professor appointment shall closely mirror the research responsibilities outlined for a tenure-track Professor at the corresponding rank.

3. Research Professors receive automatic Principal Investigator status at all title ranks.

4. Research Professors can serve as co-advisor (or principal advisor as policy allows) and supervise undergraduate/graduate students, postdoctoral research associates, and staff.

5. Research Professors receive a minimum of 5 percent of their salary from the university general fund, are eligible to compete for intramural research funds, and are eligible for start-up, grant-writing, and bridge funding at the discretion of the unit.

6. Research Professors are categorized as Academic Staff, but culturally integrated as Faculty within units per standard practices.

7. Along with implementation of the Research Professor title track, we also recommend the following amendments to existing research scientist titles:

    a. Researcher:

        i. No change in title description
        ii. Current [no prefix] level is replaced with the Senior level (Assistant, Associate, Senior, and Distinguished)

    b. Scientist:

        i. Title series is no longer intended to parallel the faculty tenure-track
        ii. New language to distinguish Scientists from Research Professors regarding the level of independence
        iii. Principal Investigator status still requires approval for Scientists (no change from current policy)

CONTEXT and BACKGROUND

The University of Wisconsin-Madison (UW-Madison) is one of the largest public academic research institutions in the country. UW-Madison ranks 6th in the country and 2nd in the Big 10 Conference in federal research expenditures, which totaled more than $1,069 million in 2016 (1,2). Our faculty, academic staff, and students are responsible for this strong and vital research enterprise, and their combined efforts continue to drive the success of UW-Madison research.

Nevertheless, the research enterprise in the United States is currently facing a series of issues, the consequences of which are beginning to appear at academic institutions. Some of these issues were highlighted in a prominent report outlining these "systemic flaws" (3), and include hyper competition for federal funding, increased strain on researchers' time, as well as too few tenure track faculty positions concomitant with an explosion in earned doctorates. This report and others prompted a broad discussion on the state of the US research enterprise, including a “cross-campus, cross-career stage and cross-disciplinary series of discussions” at UW-Madison (4), although these discussions have yet to produce widespread changes.

The oversupply of research scientists with terminal degrees, coupled with waning availability of tenure-track academic positions, demand the need to re-evaluate current workforce infrastructures as they relate to Ph.D.-level research scientists. A common proposal has been to elevate and increase the number of staff scientist positions (3-5). However, the staff scientist career track itself has inherent deficiencies in stability, recognition, funding opportunities, and career advancement, as noted by UW-Madison staff scientists themselves (4). There is clearly a need to diversify career options for Ph.D.-level researchers on campus that fully take advantage of the expertise, talent, and potential of our exceptional staff scientists and in order to keep UW-Madison competitive in a changing research landscape.

Amidst this backdrop, UW-Madison has recently seen its stature slip among the top institutions in federal Research and Development expenditures (6,7). For the first time since the survey’s inception, UW-Madison fell out of the top five rankings in the National Science Foundation’s Higher Education Research and Development (HERD) Survey in both 2015 and 2016 (1,8). This drop in the rankings reflect reduced research expenditures due to a “perfect storm” of factors, according to Vice Chancellor for Research and Graduate Education Marsha Mailick, including changing faculty demographics and a shrinking principal investigator pool (9). In fact, as Mailick notes, UW-Madison is the only institution in the top ten whose research expenditures are lower now than in 2011.

With close to 700 staff scientists, UW-Madison is the 5th top employer of doctorate-level non-faculty researchers in the nation (10). According to the Office of the Secretary of the Academic Staff, just 12% of Researchers (n=67/574) and over 23% of Scientists (n=155/659) were listed as principal or co-investigators on extramural grants in 2016-2017. These Researchers and Scientists contributed to the ~$202 million awarded in grants to academic staff Principal Investigators, co-Principal Investigators, or co-Investigators in 2016-17, representing 18% of the award money granted to UW-Madison. These impressive statistics exist despite a relatively restrictive and inconsistent PI eligibility policy compared to our peers and having titles that are often viewed unfavorably by external grant reviewers. The success of Ph.D.-level research scientists at securing extramural funding despite these barriers reflects the high caliber of research talent on campus outside the faculty track, and represents a large pool of untapped potential for additional funding Therefore, there is a need at UW-Madison to provide career

advancement opportunities to a growing number of Ph.D.-level staff scientists and to reverse the trend of our declining research expenditures/ranking.

The introduction of a Research Professor title series at UW-Madison is a potential solution that could address both issues. A full-time Research Professor position was suggested as part of a strategy that could help reverse UW-Madison's falling research ranking (9). Such a position could also provide an additional career path for Ph.D.-level scientists, and would work towards fulfilling the suggestion of the organizing committee of the UW-Madison workshop series that "institutions should develop mechanisms to recognize staff scientists and promote their careers" (4). A previous effort in 2000 to introduce a Research Professor title at UW-Madison was not adopted, and rather culminated in the creation of an honorific Research Professor title (11), of which there are currently 14 holders (all Distinguished Scientists) of this title on campus. Nearly 20 years later, we expect that both the UW-Madison environment and the US research enterprise have shifted enough that this proposal will be seriously considered, as in our assessment it is to the benefit of all parties on this campus. The introduction and implementation of the Research Professor title should be explored as a mutually beneficial way to address the needs of both current staff scientists and the research enterprise at UW-Madison.

Committee Charge

The Academic Staff Executive Committee charged the Ad Hoc Committee on Research Scientist Titles with evaluating research titling practices of Ph.D.-level research scientists at peer universities. With this information, the committee was instructed to provide recommendations to update UW-Madison research titles.

Approach

During initial discussions, our committee collectively agreed to focus on the Research Professor title, including its use, relationship to other Ph.D.-level research titles, and associated policies. We not only sought to understand whether and how peer institutions use the Research Professor title, but also how implementation of this title might be perceived by research unit leadership on at UW-Madison. Therefore, subcommittees were formed to compile both External and Internal Data related to research scientist titling practices, with a particular focus on the Research Professor title. Our review was conducted with awareness that the Titling and Total Compensation Study is currently underway at UW-Madison. Our discussion and recommendations therefore reflect current titling practices on campus and are intended to inform the ongoing Titling and Total Compensation Study as it moves forward.

EXTERNAL REVIEW OF RESEARCH TITLES AT PEER INSTITUTIONS

Selection of Institutions for Comparison

The external subcommittee was charged with researching how peer institutions addressed the title of "Research Professor" on their campuses. Three categories of institutions were included in our comparison: 1) Big 10 Conference schools, 2) Top Research Institutions, and 3) Official Peers. In sum, we surveyed 20 institutions regarding their use of the Research Professor title and associated policies (Table 1).

BIG 10	Top Research	Official Peer
University of Michigan		University of California-Berkeley
University of Iowa	University of Washington	
University of Minnesota-Twin Cities	University of California-Los Angeles	
Rutgers University	Johns Hopkins University	University of Texas-Austin
Michigan State University	University of Pennsylvania	
University of Maryland-College Park	University of California-San Francisco	
University of Nebraska-Lincoln		
Northwestern University		
Penn State University		
Purdue University		
Ohio State University		
University of Illinois at Urbana-Champaign		
Indiana University Bloomington		

TABLE 1. Overview of institutions included in comparative analysis. The 20 institutions included for comparison are from three main categories: Big 10 conference schools, Top Research Institutions by R&D expenditures, and Official Peers.

Big 10 Conference Schools:

Given their regional proximity and other similarities, all current members of the Big 10 Conference were incorporated in to our analysis. These thirteen institutions are listed in Table 1.

Top Research Institutions:

The Higher Education Research and Development (HERD) Survey, compiled by the National Science Foundation (NSF), releases annual statistics on research and development expenditures by colleges and universities, and thus serves as the major metric of academic research activity (8). For the first time since the study's inception, the University of Wisconsin-Madison dropped out of the top five rankings in both fiscal year 2015 (FY2015) (6) and FY2016 (7). Therefore, we included those institutions with the five highest research expenditure values in the HERD survey for FY2016 (1) (Table 1, Appendix A). We also included another school, University of California-Los Angeles, which has consistently ranked in the Top 20 in research expenditures and is ranked 12th in FY2016.

The Top 5 Institutions Ranked by Research and Development Expenditures (FY2016) are:

- Johns Hopkins University
- University of Michigan
- University of Pennsylvania
- University of California-San Francisco
- University of Washington

Official Peers:

We also included four official peers that were adopted March 30, 1984 – Executive Order #27, Governor Anthony Earl (Table 1): University of Washington, University of California-Berkeley, University of California-Los Angeles, and University of Texas-Austin.

Compiled Information and Verification Process

The following information, when applicable, was obtained from each institution from their official websites and online faculty handbooks and/or relevant policy overviews:

- Use of the Research Professor title
- Other Ph.D.-level researcher titles
- Relationship among researcher titles (hierarchical, parallel, etc.)
- Appointment and Promotion Criteria
- Principal Investigator Eligibility policy
- Tenure Policy
- Title Category (Faculty or Academic Staff)
- Institutional Support
- Teaching and Service Policy

The compiled data were verified through a process of verbal interviews with representatives from each university or college. These representatives were often from Academic Human Resources, the Office of the Provost or the Office of Research, or from an equivalent office. A complete table of collected data is available in Appendix B.

RESULTS OF THE EXTERNAL REVIEW OF RESEARCH TITLES AT PEER INSTITUTIONS

Overview

1. We discovered broad use of the Research Professor title among compared institutions.
2. Of those using the title, all institutions consider Research Professors non-tenure faculty.
3. Most institutions grant Research Professors automatic Principal Investigator status.
4. The Research Professor position is a distinct track from other Ph.D.-level research scientist titles, and Research Professors are universally members of faculty.
5. Several institutions offer Research Professors various forms of institutional financial support.
6. **The University of Wisconsin-Madison significantly lags behind our regional and research peers with respect to implementation of the Research Professor title.**

Use of Research Professor Title

Among the 20 institutions surveyed, we found overwhelming use of the Research Professor title (Table 2). The Research Professor title is used at 95% (n=19/20) of the institutions included in our external review (Figure 1). Among our peers in the Big 10 Conference, the University of Wisconsin-Madison is one of only 2 universities that do not use the Research Professor title (14% or n=2/14; University of Wisconsin-Madison and University of Indiana-Bloomington). Strikingly, every institution ranked as a Top 5 Research Institution uses the Research Professor title or an equivalent title (ex, University of California system Professor-in-Residence title).

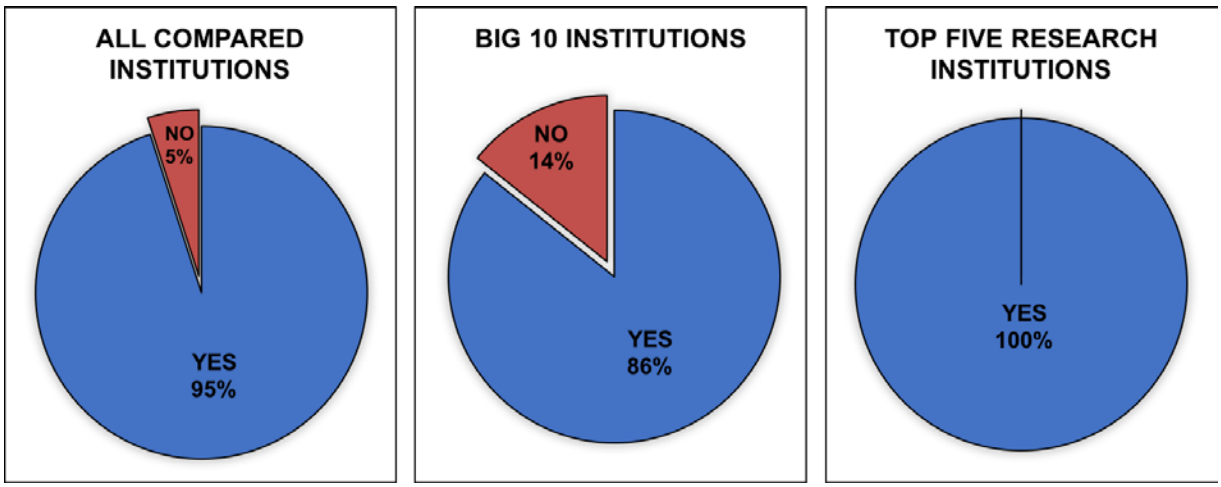

FIGURE 1. Research Professor title use at compared institutions. Percentage of institutions that use the Research Professor title at all compared schools (left; does not include UW-Madison), Big 10 Conference schools (middle; includes UW-Madison), and Top Research Institutions (right).

Introduction and Prevalence of Research Professor Title

We were interested in learning when the Research Professor title was implemented at other institutions, as well as the number of Research Professors employed. We were unable to obtain this information from all institutions, so the following sections only reflect those universities from which we acquired data. The earliest introduction of the title we recorded was at the University of California system, which introduced the "Professor in Residence" title series in 1987. At least 8 of

the 20 institutions introduced the Research Professor title in the early- to mid-2000s and have now had the title for at least 10 years. There was wide variability in the total number of Research Professors employed at the compared institutions:

- University of Illinois: **32**
- Purdue University: **36**
- Michigan State University: **40**
- University of Minnesota-Twin Cities: **47**
- Ohio State University: **104**
- University of Michigan: **257**
- University of Washington: **325**
- University of California System (all UC campuses): **1,110**

Institution	Peer Comparison Group	Research Professor Title?
University of Wisconsin-Madison		NO
University of Illinois at Urbana-Champaign	BIG 10	YES
University of Iowa	BIG 10	YES
University of Minnesota Twin Cities	BIG 10	YES
Rutgers University	BIG 10	YES
Michigan State University	BIG 10	YES
University of Maryland, College Park	BIG 10	YES
University of Nebraska-Lincoln	BIG 10	YES
Northwestern University	BIG 10	YES
Penn State University	BIG 10	YES
Purdue University	BIG 10	YES
The Ohio State University	BIG 10	YES[1]
University of Michigan	BIG 10 Top 5 Research Expenditures	YES
Johns Hopkins University	Top 5 Research	YES
University of Pennsylvania	Top 5 Research	YES
University of Washington	Official Peer Top 5 Research	YES
University of California-San Francisco	Top 5 Research	YES[2]
University of California-Los Angeles	Official Peer/Top 20	YES[2]
University of California-Berkeley	Official Peer	YES[2]
University of Texas-Austin	Official Peer	YES
Indiana University Bloomington	BIG 10	NO

[1]Only if approved by unit

[2]Professor-in-Residence title, but similar to Research Professor

Table 2. Research Professor title use at compared institutions. Institutions that use the Research Professor title (blue) and those that do not (red) are indicated.

Criteria for Appointment

The criteria for an Assistant Research Professor appointment were largely similar among institutions. The requirements are often comparable to those of tenure-track faculty of similar rank, but with the understanding that Research Professors will focus primarily on research.

Common criteria include but are not limited to:

- A terminal degree or Ph.D. in field
- Strong evidence of productive scholarship
- Achieved or demonstrated potential to achieve scientific independence, develop an independent research program, and acquire extramural funding
- Ability to fulfill responsibilities of a Principal Investigator, including direction and supervision of trainees/staff

Tenure

The Research Professor title is considered a non-tenure track position at *all institutions*.

Title Category

Where the title is in use, *all institutions* categorize Research Professors as Faculty. The following are examples of Faculty categories to which Research Professors are classified:

- Research Faculty (University of Nebraska, Purdue University, University of Michigan)
- Specialized Faculty (University of Illinois)
- Professional Track Faculty (University of Maryland)
- Associated Faculty (University of Pennsylvania)
- Term/Contract Faculty (University of Minnesota)
- Professorial Faculty (University of Washington)

Principal Investigator (PI) Status Policies

At *all institutions* in our external review, Research Professors are eligible to serve as a Principal Investigator (PI), with most institutions granting automatic PI status with the title (Figure 2, Table 3). Of the 19 universities that use the Research Professor title, 79% (n=15/19) have PI eligibility policies that automatically allow Research Professors, at all title ranks, to serve as PIs. Only 21% (n=4/19) of compared institutions require Research Professors to obtain approval for PI status and all four of these schools are within the Big 10 Conference. Notably, all five Top Research Institutions grant automatic PI status to Research Professors at all title ranks.

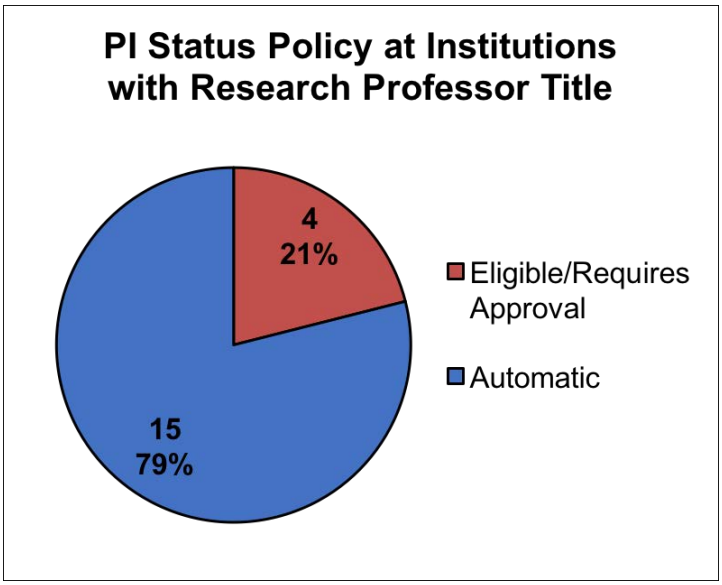

FIGURE 2. Overview of Principal Investigator (PI) status eligibility policy among institutions using the Research Professor title. Of the 19 schools that use the Research Professor title, 21% (n=4/19; red) require approval. Nearly 80% (n=15/19; blue) grant automatic PI status to Research Professors at all title ranks.

Institution	Peer Comparison Group	PI Status Eligibility
University of Iowa	BIG 10	Automatic
Michigan State University	BIG 10	Automatic
University of Maryland, College Park	BIG 10	Automatic
University of Nebraska-Lincoln	BIG 10	Automatic
Northwestern University	BIG 10	Automatic
Purdue University	BIG 10	Automatic
The Ohio State University	BIG 10	Automatic
University of Michigan	BIG 10 Top 5 Research Expenditures	Automatic
Johns Hopkins University	Top 5 Research	Automatic
University of Pennsylvania	Top 5 Research	Automatic
University of Washington	Official Peer Top 5 Research	Automatic
University of California-San Francisco	Top 5 Research	Automatic
University of California-Los Angeles	Official Peer/Top 20	Automatic
University of California-Berkeley	Official Peer	Automatic
University of Texas-Austin	Official Peer	Automatic

Institution	Peer Comparison Group	PI Status Eligibility
University of Illinois-Urbana Champaign	BIG 10	Eligible, Requires Approval
University of Minnesota-Twin Cities	BIG 10	Eligible, Requires Approval
Penn State University	BIG 10	Eligible, Requires Approval
Rutgers University	BIG 10	Eligible, Requires Approval

Table 3. Principal Investigator (PI) eligibility at institutions using the Research Professor title. Research Professors at all institutions are eligible for PI status, showing institutions that require approval (red), and those that grant automatic PI status at all title ranks (blue).

Relationship Between Research Professor Title and Other Research Scientist Titles

We sought to understand the relationship between the Research Professor title and other Ph.D.-level research scientist titles. At those institutions using the title, the Research Professor track is very much a distinct, separate track from other Ph.D.-level research scientist titles. We found no example where the Research Professor title is the terminal position in a progressive title series, but rather observed that the Research Professor series exists as a stand-alone title series at all institutions where the title is used. This is likely due to the fact that Research Professors are considered Faculty at all of the compared institutions, whereas other Ph.D.-level research scientist titles (Researchers, Research Scientists, Research Investigator, etc.) are categorized as Academic Staff/Personnel.

Notable Funding Policies and Comparisons

We identified several notable institutional support policies associated with the Research Professor title worth consideration should this title be adopted and implemented at the University of Wisconsin-Madison.

We found that several institutions cover a portion of a Research Professor's base salary, mainly to provide protected time for preparing grant applications. Some examples of percentage salary coverage, and the source of funds, include:

- Minimum 5% (Michigan State University; general funds)
- Maximum 25% (Pennsylvania State; general funds)
- Maximum 25% (Purdue; non-external funds)
- Up to 50% state funding possible (UC system; more with Chancellor's approval)

At several institutions, including University of Michigan, Michigan State University, and University of Washington, Research Professors are eligible for bridge funding, which is often determined by rank and years of service, and requires approval of the unit.

Other notable comparisons:

- All five of the Top Research Institutions use the Research Professor title
- All five Top Research Institutions grant automatic PI status to Research Professors at all ranks
- Of the data we received, the Top Research Institutions employ the highest number of Research Professors

INTERNAL REVIEW OF THE UNIVERSITY OF WISCONSIN – MADISON'S RESEARCH TITLES

Overview

The internal sub-committee was tasked with reviewing research titles on the UW-Madison campus and how each would be impacted by the addition of a "Research Professor" title. First, the subcommittee collected data that tracks the research scientist population on campus, the career advancement of research scientists on campus, and how these scientists contribute to the research dollars on the UW-Madison campus. Second, the committee interviewed leadership within units across campus that was aimed at identifying the perspectives of these individuals on the current design, setup, and breadth of the research scientist tracks on campus and how they believe the introduction of a "Research Professor" title would impact their institution.

Interviews

To provide additional insight on the recruitment and retention of scientists, career opportunities, grant-writing and the title and/or track of research professor, the committee interviewed a number of subject matter experts (SMEs): directors and associate directors of research centers and institutes at UW-Madison. An interview guide was designed (see Appendix C) and used in interviews with 9 SMEs. We targeted groups that had multiple scientists on staff and no group had fewer than 10 research scientists. We also wanted to touch as many different science areas as possible to develop a comprehensive scope and range of viewpoints. We also targeted leadership level interviewees (Director or Associate Director). The intent of this survey was to discover the benefits and/or drawbacks of the current research scientist titling system and to gauge the interest and impacts of a Research Professor title on the UW-Madison campus.

RESULTS OF THE INTERNAL REVIEW OF RESEARCH TITLES AT THE UNIVERSITY OF WISCONSIN – MADISON

Academic staff at UW-Madison: Review of Science Professionals at UW-Madison

The makeup of academic staff on campus within the Researcher and Scientist title series was compiled using data provided by the Office of Secretary of the Academic Staff. The purpose of this analysis was to survey the current situation of academic staff employed in scientific research positions on campus, to understand the career progression of scientists and the composition of scientists. Currently, there are more than 1,200 people employed with the title of "Researcher" or "Scientist" at UW-Madison. Table 4 summarizes the number of researchers and scientists working.

Title	Total number of people in title	Academic staff PIs and co-PIs	Percentage PIs
Assistant Researcher	179 (31%)	8	4.4%
Associate Researcher	186 (32%)	21	11.29%
Researcher	199 (35%)	35	17.58%
Distinguished Researcher	10 (2%)	3	30%
Total	**574**	**67**	**11.67%**

Title	Total number of people in title	Academic staff PIs and co-PIs	Percentage PIs
Assistant Scientist	260 (39%)	31	11.92%
Associate Scientist	191 (29%)	56	29.31%
Senior Scientist	185 (28%)	58	31.35%
Distinguished Scientist	23 (3%)	10	43.47%
Total	**659**	**155**	**23.52%**
Grand Total	**1233**	**222**	**18.00%**
Current holders of Honorific Research Professor Title	14		

TABLE 4. Academic staff by job title and PI status. Data from October 14, 2016.

The numbers in Table 4 show that employees in the Researcher title have the following distribution: 31% are Assistant Researchers, 32% are Associate Researchers, 35% are (Senior) Researchers, and 2% have the title of Distinguished Researcher. Of the Scientists employed on campus: 41% are Assistant Scientists, 29% are Associate Scientists, 28% are Senior Scientists, and 3% (23 people) have the title Distinguished Scientist. Nearly 12% of Researchers and 24% of Scientists are PIs or co-PIs on grants. There have been thirty-five applications for the honorific title of 'Research Professor' since it was created 15 years ago in 2003, thirty-four of which have been approved. Of the 1,233 research scientists on campus, 222 have PI'ed or Co-PI'ed a grant, or roughly only 18%. More than twice as many PIs have the title of Scientist (23.52% have PI'ed) rather than Researcher (11.67% have PI'ed).

Most of the "Scientists" and "Researchers" are employed in the School of Medicine and Public Health, followed by the Office of the Vice Chancellor for Research and Graduate Educations (OVCRGE), College of Agricultural and Life Sciences (CALS), College of Letters & Science (L&S), and the College of Engineering (CoE).

Scientists: Career Opportunities

Figure 3 shows the breakdown of "Scientists" on campus and the average duration they are in each respective position. The chart shows an average promotion rate of 6.26 years from Assistant Scientist through Distinguished Scientist. Scientists are quickly promoted out of the Assistant Scientist position after 3.5 years and achieve the Senior Scientist position after an average of 11.6 years of service. Associate Scientists are on average more than 8 years in their position, and Senior Scientists 13 years. On average it takes more than 22 years to obtain the title of Distinguished Scientist and very few people achieve the title (only 2% of all scientists).

In 2014, the Compensation and Economic Benefits Committee (CEBC) distributed a campus-wide survey to gather feedback from Academic Staff (AS) members across campus regarding the existing AS title and promotional structure (12). More than 2,000 academic staff members responded to the study. Results of the study showed that nearly half of the respondents did not expect a promotion in the next ten years in the current system (38% expected one promotion; 11% two promotions; and 0.1% three promotions).

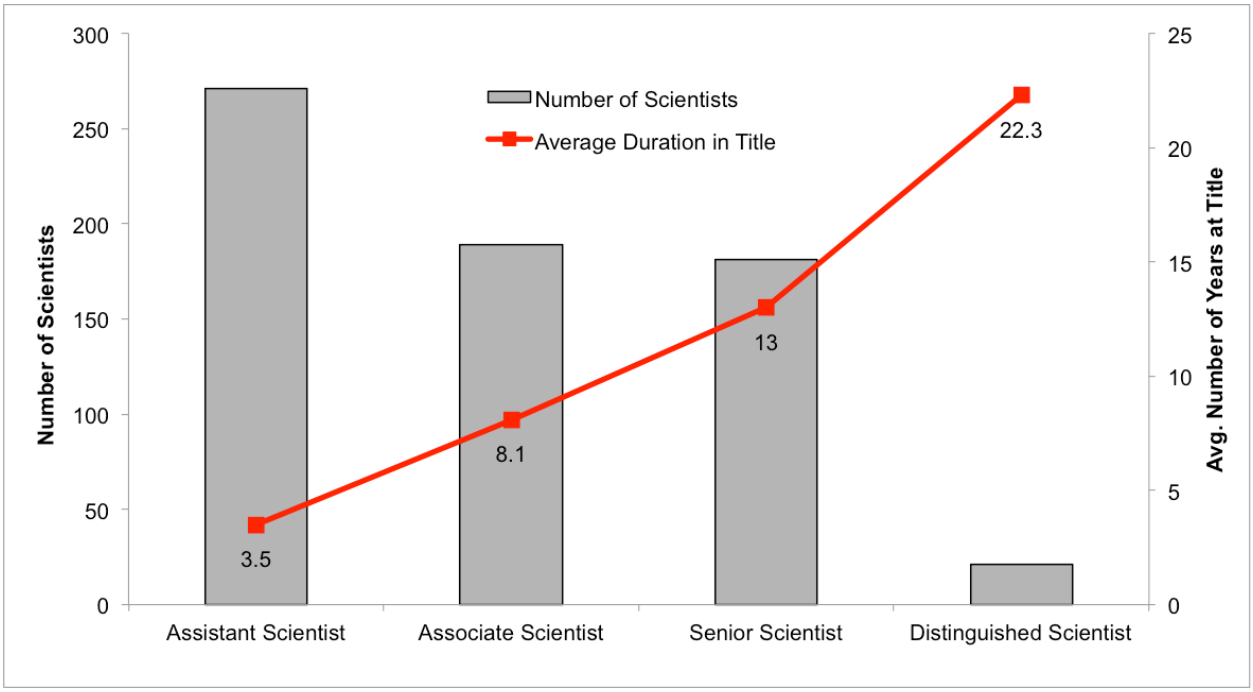

FIGURE 3: Average number of years at title by job title

Academic staff and grant applications

Estimates show that in the academic year 2015-2016, nearly $130 million dollars were awarded to academic staff PIs (11% of all awards), and more than $200 million dollars to academic staff PIs, co-PIs, co-Is (17% of all awards). For comparison: in 2013-2014 those numbers were $80 million in grants awarded to academic staff PIs and Over $86 million in grants awarded to academic staff PIs, co-PIs, co-investigators. These numbers show that (1) academic staff are a considerable source of income for UW-Madison, and (2) that growth has been occurring since 2013.

Interview Findings

The results of the interviews are summarized in Appendix D. The interviewees work in many different centers and institutes on campus, and most of them are directors (6) or associate directors (3). The centers and institutes vary in size (10-270 employees) and in the way they employ the different types of workers (researchers, staff and faculty). Only a few centers/institute employ someone in the title of Distinguished Scientist, and only one center/institute employs someone with the honorific title of Research Professor.

Interviewees' responses to the questions about recruitment and retention vary. For some (3 out of 9), recruitment and retention of personnel is not an issue. However, other center/institutions have to compete for personnel with private industry, and for them retention and recruitment can be an issue. Space availability is not an issue for most centers. Most interviewees mention that personnel complain about the lack of career opportunities. Promotion and/or salary increases are in most cases not systematically organized and are often dependent on the "boss" (center's director or PI). Most staff receive pay raises through a title change.

Scientists are often involved in grant-writing activities, either as PI (most Scientists have temporary PI status) or in a supporting role. Some centers use some general funds (101) or

foundation money for grant-writing activities, but other centers do not have the resources to support scientists in their grant writing activities. The majority of the interviewees think that it is more difficult for Scientists than faculty to obtain grant money in general. Reasons given include the lower overall status of the title when competing for grant funds, lack of time to conduct grant-writing activities, and a delayed timeline to independence in non-faculty tracks.

Most interviewees strongly support the Research Professor title. They think it would help with recruitment and retention and address some of the limited career opportunities of the current Scientist title. They think the Research Professor title should come with permanent PI status. Asked whether the title should come with limited tenure, interviewees thought that it might be a good idea, but were unsure of the logistics. Asked whether the research professor title should be added to the Scientist track or be distinct, some interviewees thought it should be added to the existing track, while others thought it should be a separate track, or had no opinion.

Summary of Major Findings

The numbers in this part of the report speak for themselves and show that there are some serious issues with career opportunities of academic staff at UW-Madison. The start of the Scientist track seems to work relatively well, with scientists on a regular basis being promoted from Assistant Scientist to Associate Scientist. Scientists are quickly promoted out of the Assistant Scientist position after 3.5 years and have achieved the Senior Scientist position after 11.6 years of service. Associate Scientists are on average more than 8 years in their position, and Senior Scientists 13 years. On average it takes more than 22 years to obtain the title of Distinguished Scientist and very few people make it into that title (only 2% of all scientists). Results of interviews with SMEs show that promotion of scientist seldom is well organized with systematic reviews. On the contrary, the process seems to be ad hoc, and is often dependent on the supervisor of the scientist or the PI on whose grant they are working. Results of a recent study among more than 2,000 academic staff members showed that nearly half of the respondents did not expect any promotion in the next ten years in the current system.

Results also show that scientists have a strong potential to obtain research funding. However, UW-Madison could make it easier for scientist to write grants, and obtain funding, for example by removing unnecessary limitations on PI status, providing support for grant-writing activities, providing bridge funds for scientists who are in between grants, etc.. Results of the interviews with SMEs shows that providing scientists with extra opportunities will probably help with recruitment and retention of high-caliber personnel, result in scientists who are more satisfied with their jobs, and will also result in scientists obtaining more grant money, which in turn will benefit both UW-Madison and its scientists. Most of the SMEs strongly supported the development of the Research Professor position.

RESEARCH PROFESSOR POLICY RECOMMENDATIONS

After a review of 20 peer institutions and their use of the Research Professor title, as well as an internal review of the needs of academic staff on campus, the Ad Hoc Committee on Research Titles recommends the following title description for Research Professor at the University of Wisconsin-Madison campus.

Description and Duties

The Research Professor position is intended for individuals who are experts in their field and are engaged in fundamental and/or applied scientific research, or leading or working within a center, core facility or institute conducting research where they provide the expertise and knowledge for collaborators or customers of the facility. The individual will work to add knowledge in a field, seek the continued expansion of the principles within the field, and to further the overall direction of the discipline. A Research Professor is expected to pursue opportunities of scholarly activities that are subject to peer review such as, but not limited to, publishing in peer reviewed journals, presenting at conferences, writing books or chapter publications, editing publications, and participating on panels. The position will require the securing of intramural and extramural funding or service fees to support their salary and research. Grant and proposal writing or negotiating contracts are an expectation. A Research Professor is intended to parallel the faculty tenure track position but is a non-tenured title at UW-Madison. Research Professors are expected to have primary responsibility for a research program including leadership of the scientific and technical aspects, independent funding, and compliance with all financial, ethical, and administrative aspects of the research. Assistant Research Professors are appointed with the expectation that they work toward these goals. The prerequisite for promotion to the Associate level is achievement of all of these goals.

Criteria for Appointment

This position is not limited to recent graduates or post-doctoral researchers. The hiring unit should determine the specific qualifications, but the following criteria are required for the research position.

1. Earned research doctorate (PhD) or other terminal degree in their field.
2. An impressive or emerging record of published research, and evidence of successful management and completion of stated objectives of previous research.
3. Strong potential for scholarly development toward independence similar to the research responsibilities/duties of tenure track Assistant Professors, and may be integrated into an existing research group, laboratory, campus center, or institute.
4. Strong potential for acquisition of independent extramural funding or ability to cover salary via contract or service research.
5. Have an academic record of peer-reviewed scholarly productivity.
6. Provide evidence of participation in relevant academic or professional meetings.

Compensation and Funding

The Research Professor title is a non-tenure track position and salaries will be primarily covered by through external sources such as grants, contracts, or other agreements with external agents with the University. Research Professors are expected to develop and maintain a sustainable research program or facility providing essential research services. The appointing unit must identify funding sources (current and anticipated) that are reasonably expected to support the initial progression to Associate Research Professor. Start-up, bridge, and grant writing funding are at the discretion of the unit or department. It is recommended that these funds are provided and included in the offer letter to the Research Professor at the time of the hire. We also recommend that a minimum of 5% salary support be provided by general funds to keep UW-Madison consistent and competitive with peer institutions. We also recommend that Research Professors be eligible to apply for intramural research funds, as these opportunities are vital to establishing a research program and early career independence.

Principal Investigator Status

Automatic Principal Investigator (PI) status will accompany this position at all title ranks. For some units on the UW-Madison campus, PI status indicates rights to laboratory or research space. For those units on the UW-Madison campus where PI status involves laboratory and/or research space, these issues should be negotiated and indicated in the offer letter from the unit to the Research Professor upon hiring.

Instruction

While the Research Professor is permitted to teach workshops, extended learning courses, and other materials that promote learning to people associated, affiliated, or external to UW-Madison, a Research Professor will not be required to teach core curriculum or for-credit courses on campus.

Supervision

Research Professors are permitted to supervise undergraduate and graduate students, postdoctoral research associates, academic staff, and university staff.

Undergraduate and Graduate Students

Research Professors are not required to participate in the mentoring or employment of students. Research Professors may serve on the committees of undergraduate and graduate students as the co-principal advisor (or principal advisor as policy allows) or as an associated committee member. They may also offer research assistantships to graduate students supported by their funding.

Shared Governance

Research Professors will be represented by the academic staff governance and have representation in the Academic Staff Assembly with the governance rights afforded them through Wisconsin State Statutes 36.09 (4m).

Research Professor Appointment Design

The Research Professor will be appointed within a College, Department, or School as a renewable appointment. In addition, the appointment will have the possibility of 2-5 year rolling horizon appointments depending on performance and funding. The unit where the appointment resides will establish a mentoring committee that will review the progress of the Research Professor annually. In addition, the following are possible:

1. Any individual in the Research Professor track (all ranks) may apply for any position, including tenure-track positions, without prejudice or preference.
2. The unit may promote an **Assistant Research Professor** to **Associate Research Professor** and later to **Research Professor** if approval is granted by the Dean's office (or OVCRGE if in a center within the Office of Research) in the School/College. It is expected that each School/College and the OVCRGE will develop an appropriate process for reviewing these promotional documents.
3. The unit may determine that the candidate is not currently qualified for promotion but is making sufficient progress toward successfully meeting the criteria for promotion to remain in the Research Professor track in their current rank.
4. Research Professors can be non-renewed for poor performance or failing to meet criteria as defined by the unit.

Research Professor Title Track and other Ph.D.-Level Research Scientist Titles

The addition of the "Research Professor" titling track has the potential to cause overlap between existing title tracks on the UW-Madison campus. To eliminate any confusion between these tracks, the committee has provided suggested changes to the "Scientist" and "Researcher" titling tracks (Table 5). Providing clarity on the "Research Professor" position is essential in the implementation and success of this new title series. The largest overlap was between the "Scientist" and Research Professor titling tracks and has been adjusted in the recommended track descriptions in Table 5.

Existing Title Tracks	Proposed Title Tracks
"Researcher" Title Track Provides technical expertise in a research or scientific project at a more comprehensive and independent level than a Research Specialist. Solves problems in research, development, and applications by applying discipline-related skills normally gained from the completion of an advanced degree. May assist in the development of grant applications and the preparation and presentation of reports of research results, and in informal instruction of research students. Levels: Assistant, Associate, [no prefix], Distinguished	***Recommended "Researcher" Title Track*** Provides technical expertise in a research or scientific project at a more comprehensive and independent level than a Research Specialist. Solves problems in research, development, and applications by applying discipline-related skills normally gained from the completion of an advanced degree. May assist in the development of grant applications and the preparation and presentation of reports of research results, and in informal instruction of research students. Levels: Assistant, Associate, ~~[no prefix]~~ Senior, Distinguished

Existing Title Tracks	Proposed Title Tracks
"Scientist" Title Track Identifies research problems, designs research methodologies, performs or supervises research, and prepared [sic] the results for presentation to professional organizations or for scholarly publications. May supervise Research Specialists and other staff. A Ph.D. or the equivalent experience and/or knowledge required to conduct research activities at the level of a principal investigator or co-principal investigator are ordinarily required to hold one of these titles. (Principal Investigator status is not automatic but is only granted on an individual basis by the Graduate School. This title series is intended to parallel the faculty tenure-track). Levels: Assistant, Associate, Senior, Distinguished	***Recommended "Scientist" Title Track*** Identifies and/or executes applied or academic research problems, designs research methodologies, performs or supervises research, and prepares the results for presentation to clients, professional organizations and/or for scholarly publications. A Ph.D. or the equivalent experience and/or knowledge required to conduct research activities at the level of a principal investigator or co-principal investigator are ordinarily required to hold one of these titles. May supervise Research Specialists and other staff and may serve as a principal investigator. Principal Investigator status is not automatic but is granted on an individual basis ~~by the Graduate School.~~-This title ~~is intended to parallel the faculty tenure track~~ appropriate for a terminal-degree researcher conducting research in applied settings that may or may not be peer-reviewed and/or primarily conducting non-independent work. Levels: Assistant, Associate, Senior, Distinguished
Research Professor does not currently exist in the UW-Madison titling track Link to existing title descriptions at UW-Madison: https://www.ohr.wisc.edu/polproced/UTG/TitleDesc2.html	***Recommended "Research Professor" Title Track*** Conducts independent fundamental and/or applied scientific research, seeks to add knowledge in a scientific field, seeks the continued expansion of the principles within the field, furthers the overall direction of the discipline, and generates peer-reviewed scholarly work. Research Professors are expected to have primary responsibility for a research program including leadership of the scientific and technical aspects, funding, and compliance with all financial, ethical, and administrative aspects of the research, and will have automatic blanket PI status to support this work. Proposes and secures extramural funding via grants and extramural contracts to support research and salary. May supervise Research Specialists and other staff. This title series is intended to parallel the faculty tenure-track, but is a non-tenured, academic staff title at UW-Madison, with no expectation of teaching university curricula. Levels: Assistant, Associate, [no prefix], Distinguished

TABLE 5. Current and proposed title series for Ph.D.-level research scientists.

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