Task Force Membership:

Aaron Beeler                Research Asst. Professor, Chemistry
David Bishop                Professor, Physics and ECE
John Clarke                 Panel Chair, Professor, Astronomy & Space Physics
Ashis Gangopadhyay          Assoc. Professor, Mathematics and Statistics
David Marchant              Professor, Earth & Environment
Daniela Plesa Skwerer      Research Asst. Professor, Psychology
John Tullai                 Research Asst. Professor, Biology
Heather Ames Versace        Research Asst. Professor, CompNet
Curtis Woodcock             Professor, Earth & Environment

Table of Contents:

I. Summary of the Process
II. The Importance of Research at Universities
III. Research Faculty at Peer Institutions
IV. Research Faculty at BU CAS
V. Task Force Recommendations
Appendix A. Status of Research Faculty and Scientists in CAS Units
Appendix B. Summary of Questionnaire Data
Appendix C. Review of Peer Institutions
Appendix D. Job Descriptions, Rights and Responsibilities for Research Scientist Positions in the Center for Space Physics
I. Summary of the Process

The Task Force on the status of Research Faculty was convened by Associate Deans Jim Jackson and Geoff Cooper in January 2012 to "to seek to understand the work experience of research faculty in CAS, or of ways we could make sure our approaches to career development and support are everything they should be, and to make recommendations for improvement going forward. Among the issues we are likely to discuss are security, bridge funding, status, and career development". The task force met three times over the spring term 2012 and twice in Fall 2012, and over the course of the meetings we:

- collected information about the present status of Research Faculty in the different units in CAS
- assembled and made available to all CAS Research Scientists a questionnaire to determine the areas of importance to them
- assembled information about the peer institutions for each of the units, and attempted to determine the status of their Research Scientists
- on the basis of this information, and our own experience, we have derived a set of modest recommendations to the CAS leadership on ways to improve the status and working conditions for Research Faculty and Scientists

For the purpose of this discussion, we include both Research Scientist and Research Faculty positions, since both comprise soft-money professional researchers who are funded by grants. One of the first things discussed was which individuals to include in our deliberations, and we quickly and unanimously concluded that we should consider all soft-money professional long-term research positions. This definition excludes Postdoctoral Fellows, since these are temporary appointments, but includes both Research Faculty and Research Scientists, who may conduct their entire careers at BU and rely on soft money to fund their work and their own salaries. The combination of these positions will be referred to as Research Faculty and Scientists (RFS).

Over the course of our meetings and research, it became clear that the most important elements of concern to soft-money researchers are:

- the unclear nature of their appointments, rights, and responsibilities
- the general consideration of their positions as "second-class citizens"
- the lack of available bridging support

The set of recommendations given at the end of this report lists a number of actions that would improve the status and working conditions, and thereby the appeal of BU to researchers, many of which are modest in scope and easily accomplished (one example is to award annual prizes for accomplishment). These recommendations are intended to greatly alleviate these concerns, improve the working conditions and status of Research Scientists at BU, and make BU a more attractive place for researchers at all levels.
II. The Importance of Research at Universities

While everyone on the task force agreed on the importance of research to the status and future of major universities, as scientists we considered it necessary to investigate and demonstrate, based on data, the clear correlations between volume of research and status and reputation of major research universities.

A summary is plotted in Figure 1, which compares BU with President Brown’s list of peer institutions. These plots show a clear correlation between volume of research and both endowment and overall academic ranking. In these plots, it is clear where we would all like BU to appear, that is with a high overall ranking and large endowment (the upper left quadrant in the upper plot and the upper right quadrant in the lower plot). The recent joining of BU within the AAU underscores the importance of research to the mission of Boston University.

Research Faculty and Scientists are a key asset to major research universities, in the sense that tenure slots are limited, these individuals can work full-time on research, and the resources (tuition dollars) and commitment needed to hire RFS’s are less than for tenure-track faculty. The RFS’s participate in student training in research, and they improve the reputation of BU, while requiring fewer internal resources. To quote from MIT’s web page: “The concept of long-term professional careers, independent of classroom teaching and supported entirely from research grants, is not a new one for the American research university. This mode of research, with professionals working in departments, laboratories, and centers, is an important mechanism for universities to maintain research viability, enter new fields, and bring researchers to the campus.”

An informal survey of peer institutions show that Boston University lags behind our peer institutions in terms of number of Research Scientists/Faculty in key departments, which has an impact on the research volume and NRC ranking (see Appendix C).
How does BU compare with President Brown’s list of peer* institutions in research, reputation, and endowment?

(*Emory, Northwestern, Columbia, U. Penn, Tufts, BC, USC, Syracuse, NYU, GWU, Northeastern)

**Figure 1:** Comparison of BU with peer institutions in volume of research and both endowment and overall academic ranking.
III. *Research Faculty at BU CAS*

The present status of Research Faculty and Research Scientists at Boston University has been explored on a factual basis in Appendix A, and the results of the questionnaire to solicit input from these individuals is given in Appendix B. The general results of these inputs, summarized here and with details given in the Appendices, are:

1. While the nature of Research Faculty appointments is specified in the Faculty Handbook, in practice the RFS’s in different units have very different levels of status, rights, and responsibilities. Examples include the ability to attend faculty meetings and the ability to serve on academic committees.

2. The ability of the RFS’s in different units to teach courses and influence department or unit decisions that affect the RFS’s is highly variable from unit to unit.

3. The overhead-sharing arrangements for RFS’s in different units vary widely from unit to unit.

4. There is at best informal bridging support for RFS’s in the different units, and at worst no way to obtain bridging support.

The questionnaire results reflect the variation in working conditions from unit to unit, and are presented in detail in Appendix B.

IV. *Research Faculty at Peer Institutions*

The task force has attempted to collect information about the status and numbers of RFS’s at peer institutions, and these data are presented in Appendix C. It was not possible to do a comprehensive survey, owing to the difficulty in obtaining data from a wide range of institutions. The information presented in Appendix C is largely based on the peer institutions for the different units, with whom we have the best knowledge.

It can be seen from the data in Appendix C that BU is competitive in many areas. It is clear that the peer institutions that have the best success make greater use of the RFS positions than we do, and this contributes to their success.
V. Task Force Recommendations:

The following recommendations are listed primarily in order of importance that was indicated in the survey of Research Faculty within CAS.

1) *Establish clear standards for the conditions and career path of Research Faculty and Scientists among the different units within CAS.* (While Research Faculty positions are listed in the CAS Faculty Handbook, the detailed rights and responsibilities of individuals in these positions vary from unit to unit, and there is no description of Research Scientist positions in the faculty handbook.) The task force recommends a “Research Faculty and Scientist” (RFS) handbook that describes and makes clear the levels of the appointments, the rights and responsibilities, and the opportunities for promotion.

In the course of the survey, the task force found that conditions vary quite a bit from unit to unit within CAS (see Appendix A). One goal of this recommendation is to increase the level of respect and visibility that Research Faculty and Scientists receive within their departments and research units. It is important to clearly state the ability of RFS’s to advise graduate students and serve on thesis committees, to teach courses, to attend faculty meetings, etc. in the RFS Handbook. The task force recommends that Research Faculty be included in faculty meetings, while the right to vote on various issues may be left up to each unit. It is important for the Dept.’s to include Research Faculty in the full academic mission, commensurate with the description of these positions in the Faculty Handbook. The task force also proposes that a set of specific rights and responsibilities for the Research Scientist track be established, and it is proposed that these be modeled on the example in Appendix D.

Other examples for peer institutions can be found at:

http://www.research.northwestern.edu/policies/research-appointments/research-faculty.html

http://provost.tufts.edu/policies/research-faculty-appointments/

http://web.mit.edu/policies/5/5.1.html#sub1

2) *Establish a system of bridge funding for Research Faculty and Scientists.* One of the main concerns expressed in the survey is the lack of financial security for soft-money professionals, particularly in times of uncertain government support. In cases where a grant is awarded, but does not arrive on time, the BU administration now provides pre-award spending, and this is not an issue. However, in cases where there is a true funding gap between grants the individual may not be able to cover their salary for a period of months. In the survey results it was quite clear that this is a source of great concern for RFS’s.
A bridge funding system would consist of a shared pool of funds from which individuals may request bridging support. These pooled funds could be matched by the unit in which the individual works. Either the head of the unit, or a small college-wide committee, could evaluate each individual’s prospects for future success in grant funding, and allocate bridging funds as appropriate. It is expected that bridge funding would only be extended in cases where there was a high probability of future funding.

Based on the information available from the units, the task force expects that a modest pot of funds would suffice to keep this system operating. One comparison for which we have information is the University of Michigan, where bridging support has been in place for over a decade (see http://research.umich.edu/policies/research-faculty/bridging/ for details of the policy). Researchers are able to apply for support up to a limited period based on the number of years they have been employed (up to 3 months after 5 years, up to 6 months after 10 years, etc.) and the pool funds are matched by the unit in which the researcher works. In the Dept. of Atmospheric, Oceanic, and Space Science, the former chair (Prof. T. Gombosi) reports that with 40 soft-money researchers, in the 8 years while he was chair there were only 2 cases in which bridging support was used.

While it may be a method of last resort, the availability of bridging support would constitute an enormous improvement in RFS morale and improve the ability of BU to recruit first-rate researchers. In terms of supplying the funds, we hope that this can be started with contributions from the College and from the Provost, or from a gift/donation. In addition, the task force has discussed a proposal for CAS grants to set aside 0.25% of overhead return to be placed in such a fund, or set aside within each unit. This proposal would need to be discussed with the units in CAS, but the task force expects it would be supported. Flexibility can be afforded to the different units to decide how best they would match the College-wide pool in providing funds for bridging support.

3) Improve the Recognition for Research Faculty and Scientists: This could be accomplished in varied ways. Articles featuring the work of RFS's in BU Today and/or Bostonia magazine, and annual CAS prizes for, e.g. “Best Research Paper of 2012”, “Outstanding Research Scientist Award”, etc. These could be accompanied by a modest cash award and a framed certificate. The taskforce believes that this would be another step toward demonstrating respect for, and indicating the importance of, the Research Faculty and Scientists.

4) Provide a Fraction of Salary Support for Non-Research Activities: An important issue for all soft-money researchers is the ability to write papers, perform service work, and write proposals while their time is charged 100% to one or more grants. This has been under discussion within the BU administration for some time, and could be solved by including a small fraction of time under hard funds for all RFS’s. This issue needs to be addressed outside of these recommendations toward the goal of full BU compliance with regulations.

The taskforce further recommends that the administration consider instituting hard funding for the portions of effort that RFS’s put in on non-research activities. The current
RFS participate in research-oriented roles in undergraduate and graduate education. As examples, the RFS offer administrative assistance to UROP programs (and mentoring of more students to expand the opportunities for students), they work as liaisons to professional societies to organize undergraduate chapters, they participate in community outreach activities, they develop teaching modules of courses on a regular basis (approach and methods-based course modules, for example), and they serve on University committees that are research oriented (lab and radiation safety, IACUC, etc). Instituting a minor fraction of their compensation from university sources to cover these costs would both reward the activities and bring Boston University into compliance with federal funding agency regulations.
Appendix A: Status of Research Faculty and Scientists in CAS Units:

**Biology**

1) **What is the IDC return arrangement and funding scheme for research administration within your unit?**
   
a. 8% of IDC comes back to the department. We then distribute half of that money to PIs in proportion to their expended direct costs for the prior year. Thus, in theory, we get back ~2.5% of your expended direct costs. In practice, however, it comes out a bit lower. The reason for this is that we give IDC money back to all PIs regardless of the overhead levels on their grants. This distribution is identical for both tenure-track/tenured faculty and research faculty with grants.

2) **In the research appointments, who is eligible to vote at faculty meetings in your unit?**
   
a. Research faculty are not eligible to vote and are not allowed to attend faculty meetings.

3) **Approximately how many courses are taught by Research Faculty?**
   
a. None are taught by research faculty. On occasion, research faculty are asked (or elect to) teach a few lectures a year as part of a module for a course, but are not compensated or acknowledged officially.

4) **Is there presently bridge funding for Research Scientists and Research Professors, and how does it work?**
   
a. No

**Chemistry**

1) **What is the IDC return arrangement and funding scheme for research administration within your unit?**
   
a. Department receives 8% and half of that is available to the PI. This would remain the same for Research Faculty.

2) **In the research appointments, who is eligible to vote at faculty meetings in your unit?**
   
a. Research faculty are not eligible to vote but do attend faculty meetings

3) **Approximately how many courses are taught by Research Faculty?**
   
a. None

4) **Is there presently bridge funding for Research Scientists and Research Professors, and how does it work?**
   
a. No

**CompNet**

1) **What is the IDC return arrangement and funding scheme for research administration within your unit?**
   
a. PIs whose PRIMARY appointments are in CompNet (essentially all Res. Asst. Profs. appointed in CompNet, but excluding those with primary appointments in other units) are going to be allowed discretionary expenses of up to $1000 per annum. These funds can be used at the discretion of the investigator, but will require receipts for reimbursement and otherwise meet
accounting standards. The funds can be used for paying incidental costs that cannot be charged to a grant, membership fees in relevant organizations, refreshments for visitors, or any other costs related to CompNet research activities of the PI. These funds cannot roll forward from one fiscal year to the next.

2) **In the research appointments, who is eligible to vote at faculty meetings in your unit?**
   
   a. All people whose primary appointment is CompNet and who are eligible to write grants as PI are automatically members of our Steering Committee and have a vote at SC meetings (the equivalent of a faculty meeting for CompNet).

3) **Approximately how many courses are taught by Research Faculty?**
   
   a. CompNet is a research only enterprise, but the graduate program in neuroscience makes use of RAPs for teaching. There are 5 RAPs teaching courses over the last few years.

4) **Is there presently bridge funding for Research Scientists and Research Professors, and how does it work?**
   
   a. No

**Computer Science**

1) **What is the IDC return arrangement and funding scheme for research administration within your unit?**
   
   a. Of the IDC returned to the Department, half is retained by the Department to cover miscellaneous costs related to the CS departmental research programs. The remaining half is returned to the PI and Co-PI’s (split equally) for use in covering non-salary, research related expenses that are not typically covered by grants, e.g., minor equipment (lap top and desktop computers), research furniture, professional society membership fees, conference travel, research visitors, refreshments for group meetings, page charges, etc. If a Co-PI is in another department, then that Co-PI’s share of IDC is transferred to his or her home department.

2) **In the research appointments, who is eligible to vote at faculty meetings in your unit?**
   
   a. Research faculty are not eligible to vote and are not allowed to attend faculty meetings.

3) **Approximately how many courses are taught by Research Faculty?**
   
   a. None, thus far.

4) **Is there presently bridge funding for Research Scientists and Research Professors, and how does it work?**
   
   a. None.

**Earth and Environment**

1) **What is the IDC return arrangement and funding scheme for research administration within your unit?**
   
   a. Our Department gets 8% of the IDC return from all overhead-bearing grants. The tenure-track/tenured faculty get 1/3 of this value (with the actual
amount dependent on total grants by the faculty member) and the Department keeps 2/3 of the collective sum brought in by the tenure/tenure track faculty. Research faculty, on the other hand, get 2/3 back, with 1/3 going back to the department.

2) **In the research appointments, who is eligible to vote at faculty meetings in your unit?**  
   a. This issue has not come up in our Department in recent memory. However, in practice it would appear that research faculty would be eligible to vote on everything except tenure-related issues.

3) **Approximately how many courses are taught by Research Faculty?**  
   a. Research faculty are eligible to teach in our Department and compensation would be at the standard rate for adjuncts in the college. However, we have (unfortunately) not had a research faculty member teach a course in our Department in at least the last 10 years.

4) **Is there presently bridge funding for Research Scientists and Research Professors, and how does it work?**  
   a. No

**Math and Statistics**

1) **What is the IDC return arrangement and funding scheme for research administration within your unit?**  
   a. There is no arrangement.

2) **In the research appointments, who is eligible to vote at faculty meetings in your unit?**  
   a. Research faculty are not eligible to vote.

3) **Approximately how many courses are taught by Research Faculty?**  
   a. No courses are taught by research faculty at this time. In the past, one or two courses were taught by research faculty per year.

4) **Is there presently bridge funding for Research Scientists and Research Professors, and how does it work?**  
   a. No

**Physics**

1) **What is the IDC return arrangement and funding scheme for research administration within your unit?**  
   a. Our Department gets 8% of the IDC return from all overhead-bearing grants. In the recent past, there was no arrangement for the division of these funds. We are attempting to move to a scheme in which the IDC return is split evenly between individual PIs and departmental discretion.

2) **In the research appointments, who is eligible to vote at faculty meetings in your unit?**  
   a. We recently formulated a policy of one year of partial bridge funding for every ten years of externally-funded research support by a research faculty member.

3) **Approximately how many courses are taught by Research Faculty?**
a. No courses are currently being taught by research faculty. In the past, research faculty have taught courses when the need for additional teaching has arisen.

4) **Is there presently bridge funding for Research Scientists and Research Professors, and how does it work?**
   a. We recently formulated a policy of one year of partial bridge funding for every ten years of externally-funded research support by a research faculty member.

Psychology

1) **What is the IDC return arrangement and funding scheme for research administration within your unit?**
   a. 8% of IDC is returned to the department; of this 8% the department allocates 4% for PI use at any time for expenses not covered by salary (extra travel, etc). Of the 4% kept by the Department, there may be funds available for small grants for faculty who submit proposals (for pilot work) prior to submitting proposals to sponsors outside BU. These small grant proposals are evaluated by the Dept. Chair, therefore they are not automatic 'bridge funding' for gaps in funding; if approved, most of these small grants cover 2-3 months' salary.

2) **In the research appointments, who is eligible to vote at faculty meetings in your unit?**
   a. Research faculty are not eligible to vote or attend faculty meetings.

3) **Approximately how many courses are taught by Research Faculty?**
   a. Research faculty are eligible to teach in our Department; compensation is at the standard rate for adjuncts in the college. Occasionally, 1 course per semester is taught by research faculty but this is not common.

4) **Is there presently bridge funding for Research Scientists and Research Professors, and how does it work?**
   a. No bridge funding arrangement. There is however the possibility to apply for a small pilot grant (cf. answer 1). Research faculty job contracts are written as being dependent on the availability of external research funding.

Remote Sensing

1) **What is the IDC return arrangement and funding scheme for research administration within your unit?**
   a. 8% of IDC is returned to the Center. Returns to PIs are made based on the longevity of a PI’s position with CRS; for example, one PI who has been with CRS for several decades splits the IDC return from his grant 20/80, where the Center receives 20% and the PI 80% of IDC. Another who has been with CRS for ~10 years splits hers 50/50.

2) **In the research appointments, who is eligible to vote at faculty meetings in your unit?**
   a. Research Faculty attend Faculty meetings and can vote on everything except tenure-related issues. Res. Fac. have served on faculty search committees. Res. Sci.’s attend Center PI meetings.
3) **Approximately how many courses are taught by Research Faculty?**
   a. Average might be 1 course per semester, both Res. Fac. and Res. Sci.’s have recently taught courses in AS Dept.

4) **Is there presently bridge funding for Research Scientists and Research Professors, and how does it work?**
   a. Informal bridge funding can be provided by Centers from their budgets if funds are sufficient, otherwise no formal bridge funding arrangement.

**Space Physics/Astronomy**

1) **What is the IDC return arrangement and funding scheme for research administration within your unit?**
   a. The AS Dept. gets 8 % of IDC, and the Center(s) get 10 %. Most of the 8 % to the Dept. ends up returning to the Center to support operating expenses, for example staff who support research are paid in part through these funds. PI’s used to get 6 % of the overhead return into individual accounts, but the present budget does not allow this level, last year each PI got $1000. in discretionary funding. We hope to increase this amount soon.

2) **In the research appointments, who is eligible to vote at faculty meetings in your unit?**
   a. Research Faculty attend AS Dept. Faculty meetings and vote on everything except tenure-related issues. Res. Fac. have also served on faculty search committees. Res. Sci.’s attend Center PI meetings but not Dept. faculty meetings.

3) **Approximately how many courses are taught by Research Faculty?**
   a. Average is about 1 course per semester, and both Res. Fac. and Res. Sci.’s have recently taught courses in AS Dept.

4) **Is there presently bridge funding for Research Scientists and Research Professors, and how does it work?**
   a. Informal bridge funding can be provided by Centers (CSP and IAR) from their budgets if funds are sufficient, otherwise there is no formal bridge funding arrangement.
Appendix B: Summary of Questionnaire Data

A 25-item questionnaire was assembled and made available online to CAS Research Faculty and Research Scientists (RFS), in order to collect information about the present status and professional experiences of RFS in the different units of CAS. The questions addressed their current concerns, needs, expectations and areas of importance for their professional life at BU, and included requests for suggestions about what BU could do to make the research faculty track more attractive and to retain its current RFS. The questionnaire ended with an invitation for any other concerns and comments the responders might have about the research faculty track at BU.

Responses were received from 24 Research Faculty and Scientists (excluding Postdoctoral researchers) from 6 different research units, including the departments of Astronomy, Biology, Biostatistics, Psychology, the CAS/Center for Space Physics and the Center for Computational Neuroscience and Neural Technology.

The text of the online questionnaire for the RFS's was:

"Greetings. This questionnaire has been prepared by a CAS Task Force of academic and research faculty members assigned to assess the status of Research Faculty within CAS. We will report back to the Dean's office on where things stand at present and what can be done to improve matters. We have formulated the questions below to try to learn what is most important to your work and professional life at BU, and also to learn about the main pro's and con's that you see in your present position. We will use your answers as input to the report and recommendations that will be produced, and want to thank you in advance for the time it will take you to fill this in. Feel free to add text comments if our questions do not cover your main points. " This survey will be anonymous... don't write down your name.

Questionnaire for all CAS research faculty and research scientists:

1. What was your last position before your current position at BU?
   a. Research Staff (including Research Scientist)
   b. Research Faculty
   c. Postdoc
   d. Tenure-track faculty
   e. Other (fill in) ___________

2. What is your current position (title) at BU?
   a. Research Staff (including Research Scientist)
   b. Research Faculty
   c. Postdoc
   d. Tenure-track faculty
   e. Other (fill in) ___________

3. What Department or Center are you working in?
On a scale of 1-5 (1=Strongly Disagree, 5=Strongly Agree), state your level of agreement to the following statements. If a question does not apply to you, please choose N/A.

4. I feel that I am a valuable member of my department/unit.

   1  2  3  4  5  N/A

5. I feel that the criteria for promotion/advancement are clear.

   1  2  3  4  5  N/A

6. I feel that the criteria for promotion/advancement are fair.

   1  2  3  4  5  N/A

   i. In what range is your salary? (optional)
      a. Below 40K
      b. 40-60K
      c. 60-80K
      d. 80-100K
      e. above 100K

7. My level of compensation compares favorably to:
   a) Other research faculty and scientists within BU.

      1  2  3  4  5  N/A

   b) Tenure-track faculty in my department/unit.

      1  2  3  4  5  N/A

   c) Research faculty and research scientists at other institutions.

      1  2  3  4  5  N/A

8. I feel that following facilities/support systems that I have are adequate to perform my job [and is comparable to tenure-track faculty in my department/unit].

   a) Office and/or lab space

      1  2  3  4  5  NA

   b) Administrative support

      1  2  3  4  5  N/A
c) Computer support

1 2 3 4 5 N/A

d) Mentoring from other faculty

1 2 3 4 5 N/A

e) Access to students that you can advise and who can work on your research

1 2 3 4 5 N/A

Please rank the categories (a) – (e) in order of importance to you:

9. The percentage of my time I actually spend on the following categories of activities and what I think it should be.

<table>
<thead>
<tr>
<th>Activities</th>
<th>Current %</th>
<th>Ideal %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activities directly related to research</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advising/Instruction of Students/Postdocs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-research Activities (Writing grants, attending faculty meeting, serving in committees not related to research, etc.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (please list)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

10. In considering your career goals, do you regard your present position at BU as long-term?

Yes    No    N/A

11. For how many years do you expect to stay at BU?

<2      2-5     >5

12. Do you support a mechanism of bridge funding established for research faculty during lapses in funding?

Yes    No    N/A

13. Would you be in favor of your unit contributing some of its overhead return to a fund for bridging support?
14. What are the most positive aspects of your position at BU?

15. What immediate needs as a researcher do you have now that would allow you to perform your job better (e.g. mentoring, resources)?

16. What can BU do to make the research faculty track more sought after and attractive? What can BU do to retain its current research faculty (e.g., incentives, promotion, motivation)?

17. Are there any other comments and/or concerns that you would like to raise?

Questionnaire Results:

A summary of the questionnaire responses is organized below into four main categories of issues: I. Job satisfaction in the current position; II. Time/effort management and future career prospects; III. Proposed new mechanisms of support for RFS; IV. Other suggestions for what BU could do to improve the status, working conditions, recruitment and retention of RFS in CAS.

I. A first set of questions (4 to 8 and 14-15) addressed several dimensions of job satisfaction in the current position:
   1. perception of being a valued member of the department
   2. promotion/advancement opportunities
   3. compensation
   4. sources of support (institutional) and current needs
   5. positive aspects of current position at BU (free-form responses)

   1. Perception of being a valued member of the department (ratings on 1 – 5 scale: from strongly disagree to strongly agree)

   Although 43% of the responders strongly agree with the statement “I feel that I am a valuable member of my department/unit”, while only 14% disagree with this statement, the issue of whether the research faculty track is valued and respected by the University emerged as a concern in the open-ended responses and comments provided by some of the responders. For instance, among the open-ended responses to the question “What can BU do to make the research faculty track more sought after and attractive? What can BU do to retain its current research faculty?” (i.e. question number 16), the two most often mentioned suggestions were:

   - to value the research-faculty track as an asset for the university and for each department by increasing recognition and incentives for RFS accomplishments (67% of responders)
- to ensure funding opportunities that would provide more economic security and job stability during lapses in external funding (e.g., bridge funding, pilot internal grants, bonuses for successful grant writing and start-up funds) - 67% of responders.

2. Promotion/career advancement opportunities (rating 1-5)

With respect to questions about promotion/advancement criteria, 57.7% of responders disagreed with the statement: “I feel that the criteria for promotion/advancement are clear” (27% strongly disagreed), while only 15.3% agreed, and the rest either had no opinion or considered that the question did not apply to them.

When asked to rate their agreement with the statement “I feel that the criteria for promotion/advancement are fair”, 27% of ratings provided were neither agree nor disagree, 34.5% of responses were N/A, while 23% agreed and 15.4% disagreed with the statement.

This perceived lack of clarity in criteria for promotion/advancement for the research faculty track at BU was further emphasized in the open-ended responses to question 16. The 3rd most often mentioned suggestion (38% of respondents) was: - to define or establish a clear path for promotion and to standardize the research faculty track policies (e.g., clarify roles and expectations, formal descriptions of RFS titles and levels of promotion).

3. Compensation (rating 1-5)

Another set of questions addressed the issue of responders’ satisfaction with their level of compensation relative to that of other RF at BU, tenure track faculty at BU, and RF at other peer institutions (i.e., degree of agreement with the statement “my level of compensation compares favorably to.....”, on a scale of 1 – 5). Over 40% of responders mentioned that they did not know the level of compensation for other faculty positions.

When comparing their level of compensation to that of other RFS at BU, 23% of responders neither agreed, nor disagreed with the statement, 29% agreed and 11% disagreed. However, when taking as reference the level of compensation of tenure-track faculty at BU, only 8% responded neither agree nor disagree, 12% agreed and 40% disagreed with the statement that their level of compensation compared favorably to that of their tenure-track colleagues (16% strongly disagreed).

When taking as reference the level of compensation of RFS at other institutions, 21.4% disagreed with the statement, 14.3% agreed and 14.3% responded neither, while all the rest of the responders declared that they had no information about compensation at other institutions.

Compensation and benefits emerged as concerns in the free-form responses to question 16, as well as in the general comments (question 17) provided by several responders. Better compensation (e.g., equivalent package with that offered to tenure-track faculty) and adequate raises and benefits were mentioned by 38% of responders. Specific suggestions included: compensation for teaching in line with time spent, greater than inflation raises tied to professional success, paid sabbatical leave and more generous overhead return for PIs.
4. Sources of support (institutional) and current needs (rating and ranking of support; free form responses about immediate needs as a researcher)

Satisfaction with five aspects of institutional support was assessed based on ratings (1 to 5) of the responders’ feeling about having adequate support systems in the following areas:

a. office and/or lab space: 37% strongly agree, 31% agree, while 26.5% disagree (of these, 11.5% strongly disagree).

b. administrative support: the majority of responders agreed (77%) while 11.5% responded neither and 7.7% disagreed.

c. computer support: similar percentages of agreement (77% considered they have adequate computer support) while 7.7% disagreed and 15.4% responded neither.

d. mentoring from other faculty: While a majority of responders (43%) agreed with the statement that they have adequate mentoring from other faculty, 27.4% disagreed (12% strongly disagreed), 11.5% noted that mentoring was NA, and almost 20% responded neither.

e. access to students. Only 23% of responders agreed that they have access to students they can advise and who can work on their research, 19.2% declared this was NA, while 31% disagreed with this statement.

Increasing access to students was one of the concerns and suggestions mentioned by 14.4% of responders in their open-ended responses (questions 16 and 17)

When asked to rank the importance of these 5 areas of support systems, access to students was listed among the first 3 in order of priority by 77% of responders, followed closely by administrative support, listed among the 3 most important aspects by 73% of responders. Office/lab space was listed among the first 3 important aspects by 58%, computer support by 56% and mentoring from other faculty by 50% of responders.

Besides rating these predefined sources of support, the responders were also asked to express what immediate needs they have now as researchers, that would allow them to perform their job better. The following categories of “immediate needs” were mentioned: a. Students, preferably graduate students and/or directly recruited by the lab/unit (15.6%), b. Bridging support funds (12.5%), c. increased administrative support (9.4%), d. own office (9.4%); other immediate needs mentioned by fewer than 10% of the responders included: simpler access to overhead returns, better IT support, more direct mentorship from senior faculty, clear policies on promotion and raises, updating the level of P(purchasing) card and own telephone. Several responders (15.6%) reported to be fully satisfied with their current support (declared no immediate needs at presently).

5. Positive aspects of current position at BU

Several common themes emerged from the analysis of free form responses to the question about responders’ perception of the most positive aspects of their current position:
a. **Quality of research community**: 49% of responders mentioned the research environment they work in as the most positive aspect of the position; the research community is perceived by these responders as *excellent* in terms of scientific expertise, productivity, collaborative work, research network and access to researchers across multiple disciplines, supportive colleagues, and interesting projects.

b. **Freedom to pursue research of interest and flexibility in organizing time and priorities** were mentioned by 27% of responders as the most positive aspect of their current position.

c. **Location and excellent facilities** were factors mentioned by 14.6% of the responders as the most positive aspects of their current position.

d. Opportunities for teaching and access to a diverse student population were listed among the most positive aspects of their position by 7.4% of responders.

Other positive aspects mentioned were ‘prospects for long term employment’ (1 person) and ‘the ability to work from home’ (1 person). Almost half of the responders listed at least 2 different positive aspects of their current position, (1 person listed 4 different aspects).

**II. A second set of questions addressed the issues of time management and career prospects of RFS positions** (questions 9 to 11 and 15)

Below is a summary of how the responders’ time is spent among different types of activities, what would be the ideal time-distribution for such activities, and what are the responders’ expectations about their position at BU.

<table>
<thead>
<tr>
<th></th>
<th>Current average</th>
<th>Ideal average</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Activities directly related to research</td>
<td>74%</td>
<td>75%</td>
</tr>
<tr>
<td>b. Advising/Instruction of students/postdocs</td>
<td>10.4%</td>
<td>14%</td>
</tr>
<tr>
<td>c. Nonresearch activities (committees, writing)</td>
<td>18.2%</td>
<td>11%</td>
</tr>
</tbody>
</table>

From the responses provided to this set of questions it appears that, *on average*, the current time distribution among different types of activities reported by the RFS at BU is close to their envisioned ideal situation.

However, when asked about their career prospects, 52% of responders do not regard their current position at BU as long-term, 32% consider it long-term, while 16% reported ‘other’ or NA. Two responders (~8%) specified that they wished their position would be long-term in terms of their research interests, but acknowledged that it might not be so in terms of stability and compensation level (e.g., ‘too low for 12 months’). More specifically, 36% of responders expect to stay at BU for more than 5 years, 36% expect to stay between 2 – 5 years and 28% for less than 2 years.

**III. Proposed New Mechanisms of Support for RF (questions 12 -13)**
Two questions addressed potential mechanisms for creating a bridging support fund for RFs during lapses in funding. The proposal to establish a mechanism of bridge funding for RFs at BU (question 12) was supported unconditionally by 89% of responders, while 3.8% added conditions (e.g., “under special circumstances and for short periods of time”), and 7.7% responded NA. Nobody responded No to this question. When asked whether they would be in favor of their unit contributing some overhead to a fund for bridging support (questions 13), 74% of responders agreed without other comments, 22% agreed but suggested conditions to assure a judicious balancing of this type of funding against other uses of the overhead (e.g., RFS to assume additional responsibilities such as student-advising in research, committee service, etc). One responder disagreed with the proposal, suggesting that each unit should have its own bridging support funding, and rejected the idea of a shared inter-unit fund. Overall, 96% of responders agreed with this proposal with or without additional conditions.

IV. The last set questions (numbers 16 and 17) elicited open-ended suggestions for: “What can BU do to make the research faculty track more sought after and attractive? What can BU do to retain its current research faculty” and other comments or concerns.

The free-form responses provided to question 16 largely mirrored the dimensions of job satisfaction noted and rated in the first part of the survey. The majority of responders made 2-3 suggestions, captured in the categories described below.

a. the research-faculty track should be valued by the university and departments (e.g., receiving recognition for accomplishments) - mentioned by 67% of responders.

b. bridging support and more funding opportunities (e.g., through internal pilot grants, mall grants, bonuses for grant writing, raises) – mentioned by 67% of responders.

c. standardizing the research faculty track and defining a clear path for promotion (e.g., clearer definitions of titles, roles, expectations, policies for career advancement, clearer definition of level of job security) – mentioned by 38% of responders.

d. adequate compensation and benefits (e.g., comparable to the packet for tenure-track faculty, start-up funds for establishing a lab, paid sabbatical leave) – mentioned by 24% of responders.

e. opportunities for more involvement in teaching and access to students (including recognition for mentoring and advising of students) – mentioned by 15% of responders.

Additional suggestions, mentioned by fewer than 10% of the responders, included: providing adequate office/lab space, offering resources and more generous overhead return to the PI of a grant.

In response to the invitation for any comments or concerns they would like to raise (question 17), five responders largely reiterated the suggestions mentioned above while commenting on particular situations from their units. The need for an official process for promotions and pay raises and the need for bridging funds for those on soft money were issues raised repeatedly in the comments. The other specific issues raised were: a. Need for
a formal mechanism for getting teaching experience and be compensated adequately for it; b. Need for flexibility in purchasing items and covering professional travel expenses from grant funds (less ‘petty bureaucracy’); c. Need to support in part RFS (10-25%) in return for research-oriented roles in undergraduate/graduate education (e.g., in UROP, mentoring, teaching modules, be on research-related committees); d. Need for higher IDC (comparable to other institutions).

Sample comments from responses to questions 16 and 17

“The first thing - is that this track needs to be valued by the university. If not, it should not exist. What BU can do, is make departments (and their faculty) realize that research faculty are an asset -- they bring in research funds and expertise. At present, nobody cares whether they exist. It is just a relationship of convenience. If the dept. cared, they would involve the research faculty in teaching, advising, hiring, collaborating on grants ... and RF would not feel like pariahs.”

“More clearly defined levels of promotion and a better idea of what the level of job security is for research staff at the university - not necessarily job permanence but just a better indication of how much the university values research staff - the bridging support mentioned previously would be an example of how this could be done, but there may be other ways as well.”

‘Having in place a system of bridge funds or small grants from University resources to assure some security in times of external funding gaps, maybe at least a year of salary after the end of a funded project to allow enough time to focus on publications; a clearer system of promotion opportunities, recognition of individual work on projects with a tenured faculty PI, including recognition for mentoring/advising students associated with a project and who have the PI as main adviser, but work closely with the research faculty member.’

“There is no long term stability. I could be working in industry for easily double my current salary, and would have at least some guarantee of stability. From my perspective, I bring only positive impact to the center, department, and university. I bring in grants to pay for my own salary, those of students, and those grants also pay for support staff and general university overhead. I collaborate with others in the department, and publish regularly. So the most obvious incentive BU could offer would be either in compensation or stability. For example, if I support a student, maybe a bonus. Or if there is a funding shortfall for a few months, maybe some method to allow for another round of proposal submissions.”

“I was told during recruitment that research faculty were a parallel track to tenure-track faculty, but it does not feel like there is any parallel. There is no obvious way for me to progress in seniority or get pay raises”.

“Either there needs to be an official process for pay raises and promotions OR I should be able to specify any salary I like for myself in my grant applications since I am funded by those grants - this is a self-correcting way to do salaries, if the sponsors are
happy to fund me then I get the pay raise but if I go too far then the sponsors will not fund me, my funding will run out, and my position will no longer exist.”

“I think the Research Faculty could be supported in part (10-25%, e.g.) in return for research oriented roles in undergraduate and graduate education. For example, but not limited to, administrative assistance to UROP programs (and mentoring of more students to expand the opportunities for students), work as liaisons to professional societies to organize undergraduate chapters, community outreach, teaching modules of courses on a regular basis (approach and methods-based course modules, for example), serve on University committees that are research oriented (lab and radiation safety, IACUC, etc). Those of us that are motivated and committed to the University already play such roles at our own time expense with nothing in return.”

“In my department, the Research Faculty were all women, who did not have the mobility to take up jobs at other locations because of family. The department took them for granted instead of having the insight to build up the research areas they represented. The department did not offer any supporting courses, so it was hard for the research faculty to maintain students. There was no structure for promotion or any sort of appreciation. Even when the department was short staffed to teach, the research faculty could not teach because the compensation offered was so poor. Having research faculty teach on occasion is a good way to involve them. It could offer some hard salary support, as well as make them feel connected with students. RF at other institutions are typically offered 3 months of support to teach a course. Finding a way for RF to teach (and be compensated) on occasion would benefit the dept., the RF, and students.”
Appendix C: Review of Peer Institutions

The members of the research faculty task force carried out an informal survey of peer institutions to gather data on the number of research faculty as it related to the size and the NRC ranking of the departments. This information is not always publicly available. The committee members relied on available information on the university and departmental websites and personal contacts to gather the data, which is presented in the Appendix. The data, albeit brief, show that Boston University lags behind our peer institutions in terms of number of Research Scientists/Faculty in key departments, which has an impact on the research volume and NRC ranking. Here is a sampling of the information:

<table>
<thead>
<tr>
<th>University</th>
<th>Department</th>
<th># of Research Scientist/Faculty</th>
<th>NRC S Ranking 5th Percentile</th>
<th>NRC S ranking 95th Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Michigan</td>
<td>Space Science</td>
<td>36</td>
<td>13</td>
<td>28</td>
</tr>
<tr>
<td>University of Colorado Boulder</td>
<td>Space Science</td>
<td>~50</td>
<td>16</td>
<td>31</td>
</tr>
<tr>
<td><strong>Boston University</strong></td>
<td><strong>Space Science</strong></td>
<td><strong>13</strong></td>
<td><strong>23</strong></td>
<td><strong>33</strong></td>
</tr>
<tr>
<td>University Of Pittsburgh</td>
<td>Chemistry</td>
<td>12</td>
<td>38</td>
<td>59</td>
</tr>
<tr>
<td>Vanderbilt University</td>
<td>Chemistry</td>
<td>19</td>
<td>26</td>
<td>116</td>
</tr>
<tr>
<td><strong>Boston University</strong></td>
<td><strong>Chemistry</strong></td>
<td><strong>2</strong></td>
<td><strong>112</strong></td>
<td><strong>160</strong></td>
</tr>
</tbody>
</table>

The presence of Research Faculty in departments and centers increase research productivity, attract other researchers, develop new directions in research, increase overall visibility of the departments/centers; and all these aspects in turn are reflected in the NRC ranking. Thus the policies procedures that promote recruitment and retention of research faculty should be an important goal.

**Space Physics Peer Institution Information**
<table>
<thead>
<tr>
<th>INSTITUTION/ Dept</th>
<th>NRC R Ranking 5th</th>
<th>NRC R Ranking 95th</th>
<th>NRC S Ranking 5th</th>
<th>NRC S Ranking 95th</th>
<th>Full-time (tenure-track) faculty</th>
<th>Research Scientists / Research Faculty</th>
<th>Post-doctoral / visiting scholars</th>
<th>Research Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Michigan / Atmospheric, Oceanic, and Space Sciences Dept.</td>
<td>11</td>
<td>28</td>
<td>13</td>
<td>28</td>
<td>28</td>
<td>36</td>
<td>13</td>
<td>N/A</td>
</tr>
<tr>
<td>University of New Hampshire / Earth, Oceans, and Space</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>20</td>
<td>30</td>
<td>N/A</td>
<td>$41M / year</td>
</tr>
<tr>
<td>University of Colorado, Boulder / Laboratory for Space Physics</td>
<td>8</td>
<td>23</td>
<td>16</td>
<td>31</td>
<td>14</td>
<td>~50</td>
<td>N/A</td>
<td>$90M / year</td>
</tr>
<tr>
<td>University of California, Berkeley / Space Sciences Lab.</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>11</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Boston University / Center for Space Physics</td>
<td>24</td>
<td>33</td>
<td>23</td>
<td>33</td>
<td>16</td>
<td>13</td>
<td>7</td>
<td>$15M / year</td>
</tr>
</tbody>
</table>

Note: Currently, the AS Department at BU has 15 Teaching Faculty, 3 Research Faculty, 10 Research Scientists, and 5 Postdoctoral Associates.

**Earth Science Peer Institution Information**

<table>
<thead>
<tr>
<th>INSTITUTION / Dept</th>
<th>NRC R Ranking 5th</th>
<th>NRC R Ranking 95th</th>
<th>NRC S Ranking 5th</th>
<th>NRC S Ranking 95th</th>
<th>Full-time (tenure-track) faculty</th>
<th>Research Scientists / Research Faculty</th>
<th>Post-doctoral / visiting scholars</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washington University, St. Louis/ Earth and Planetary Sciences</td>
<td>44</td>
<td>83</td>
<td>54</td>
<td>102</td>
<td>18</td>
<td>6</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Johns Hopkins/ Earth and Planetary</td>
<td>22</td>
<td>49</td>
<td>33</td>
<td>80</td>
<td>12</td>
<td>8</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>
### Psychology Peer Institution Information

<table>
<thead>
<tr>
<th>INSTITUTION/Dept</th>
<th>NRC R Ranking 5th Percentile</th>
<th>NRC R Ranking 95th Percentile</th>
<th>NRC S Ranking 5th Percentile</th>
<th>NRC S Ranking 95th Percentile</th>
<th>Full-time (tenure-track) faculty</th>
<th>Research Scientists / Research Faculty</th>
<th>Post-doctoral / visiting scholars</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tufts</td>
<td>47</td>
<td>87</td>
<td>38</td>
<td>72</td>
<td>23</td>
<td>2 in Psychology + 6 in Neuroscience</td>
<td>5</td>
<td>15 labs listed in Psych dept</td>
</tr>
<tr>
<td>Northwestern</td>
<td>32</td>
<td>80</td>
<td>33</td>
<td>67</td>
<td>31</td>
<td>4</td>
<td>7</td>
<td>listed 19 different labs</td>
</tr>
<tr>
<td>Northeastern</td>
<td>65</td>
<td>127</td>
<td>59</td>
<td>103</td>
<td>21</td>
<td>4</td>
<td>6</td>
<td>15 labs listed in Psych dept</td>
</tr>
<tr>
<td>GWU</td>
<td>90</td>
<td>149</td>
<td>112</td>
<td>161</td>
<td>27</td>
<td>4</td>
<td>2</td>
<td>across 5 different labs</td>
</tr>
<tr>
<td>Rutgers/Psychology</td>
<td>34</td>
<td>79</td>
<td>51</td>
<td>92</td>
<td>40</td>
<td>3 + 4 'clinical' faculty</td>
<td>7</td>
<td>26 research labs listed ;</td>
</tr>
<tr>
<td>Boston University</td>
<td>32</td>
<td>74</td>
<td>43</td>
<td>79</td>
<td>36</td>
<td>12</td>
<td>5</td>
<td>20 BU-affiliated psychology labs</td>
</tr>
</tbody>
</table>
These are Research labs within the Psychology department of the various colleges of arts and sciences. It excludes faculty from other research Institutes affiliated with the Universities (e.g., Center for Molecular and Behavioral Neuroscience - CMBN at Rutgers University, etc.)

### Chemistry Peer Institution Information

<table>
<thead>
<tr>
<th>INSTITUTION/Dept</th>
<th>NRC R Ranking 5th Percentile</th>
<th>NRC R Ranking 95th Percentile</th>
<th>NRC S Ranking 5th Percentile</th>
<th>NRC S Ranking 95th Percentile</th>
<th>Full-time (tenure-track) faculty</th>
<th>Research Scientists/Research Faculty</th>
<th>Post-doctoral/visiting scholars</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>U. Pitt. Chemistry</td>
<td>18</td>
<td>52</td>
<td>38</td>
<td>59</td>
<td>39</td>
<td>12</td>
<td>32</td>
<td>No bridge funding.</td>
</tr>
<tr>
<td>BC Chemistry</td>
<td>26</td>
<td>72</td>
<td>32</td>
<td>90</td>
<td>25</td>
<td>?</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Vanderbilt Chemistry</td>
<td>27</td>
<td>85</td>
<td>26</td>
<td>116</td>
<td>31</td>
<td>19</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>UNC Chemistry</td>
<td>5</td>
<td>16</td>
<td>7</td>
<td>25</td>
<td>49</td>
<td>3</td>
<td>74</td>
<td></td>
</tr>
<tr>
<td>University of Chicago Chemistry</td>
<td>12</td>
<td>36</td>
<td>12</td>
<td>39</td>
<td>26</td>
<td>?</td>
<td>?</td>
<td></td>
</tr>
<tr>
<td>Boston University Chemistry</td>
<td>52</td>
<td>112</td>
<td>112</td>
<td>160</td>
<td>28</td>
<td>2</td>
<td>36</td>
<td>1 research faculty will depart in July leaving 1 research scientist</td>
</tr>
</tbody>
</table>

### General Information on Research Faculty from Peer Institutions

- [http://www.cmu.edu/policies/documents/ResearchFac.html](http://www.cmu.edu/policies/documents/ResearchFac.html)
- [http://provost.tufts.edu/policies/research-faculty-appointments/](http://provost.tufts.edu/policies/research-faculty-appointments/)
- [http://web.mit.edu/policies/5/5.1.html](http://web.mit.edu/policies/5/5.1.html)
- [http://www.research.northwestern.edu/policies/research-appointments/research-staff.html](http://www.research.northwestern.edu/policies/research-appointments/research-staff.html)
- [http://research.umich.edu/policies/research-faculty/rf-bridging/](http://research.umich.edu/policies/research-faculty/rf-bridging/)
- [http://www.washington.edu/admin/acadpers/job_descriptions/Research_Assistant_Professor.html](http://www.washington.edu/admin/acadpers/job_descriptions/Research_Assistant_Professor.html)
Appendix D: Job Descriptions, Rights and Responsibilities for Research Scientist Positions in the Center for Space Physics

There are two types of professional research appointments at the University and therefore within the Center for Space Physics:

(1) Appointments made by our academic unit (GRS) that have the titles Visiting Scholar, Research Fellow, Postdoctoral Associate, Senior Postdoctoral Associate, Research Scientist, and Senior Research Scientist.

(2) Appointments made by the Office of Personnel (Human Resources) having a variety of titles, each graded for rank and salary level based upon the specific job description submitted to the Office of Personnel. Some examples of the latter are *Staff Scientist, Staff Researcher, Observing Assistant* and *Data Analyst*. For research administrative positions, there are titles such as *Assistant Director, Administrative Assistant, Proposal Development Administrator*, and *Project Coordinator*.

Both types of appointments (Academic Unit and Personnel Office) are considered to be "professional" in character, meaning that they are not paid using an hourly rate but rather an annual salary, there are no “overtime” payments for work, and they are not represented by a union (as occurs, for example, with the Center’s support staff positions of Program Coordinator). Research categories (1) and (2) are eligible for the same professional fringe benefit packages, including options of medical and retirement plans, available to faculty (with full descriptions available from the Human Resources Office at 25 Buick Street).

The broad variety of Personnel Office type positions are documented elsewhere, this document presents the less-well described academic appointments.

II.1. A *Visiting Scholar* is a scientist whose primary appointment is at another institution, but is visiting Boston University to collaborate on a research project for a fixed time period. The term of the appointment is for one year or less. It can be renewed any number of times. Examples might be for a faculty member on sabbatical from another institution and being paid by that institution, or for a colleague who is retired from another institution and is simply visiting for research collaboration, with the Center perhaps paying for local subsistence (housing, meals and local travel) during that person’s stay.

II.2. A *Research Fellow* is a scientist collaborating on a research project at the Center, but neither as a visitor nor as a full-time employee. This is a flexible appointment appropriate for a wide range of ongoing collaborations (e.g., ranging from a non-Ph.D.-level colleague in a specific research group, to an un-salaried faculty member in another unit of the University collaborating on a CSP project). Typically, a Center PI (or the Center Director) pays for non-salary expenses (e.g., travel, housing, etc.).

II.3. A *Postdoctoral Associate* is a new Ph.D researcher. This position is the normal entry research position after the Ph.D, and includes an element of training under the guidance of
a senior researcher at BU. The individual is expected to develop increasing leadership in their research efforts, and if successful to transition into the Research Scientist track. This position is funded by one or more research grants and does not come with PI status.

II.4. A Research Scientist is a more experienced researcher, typically with a doctoral degree, and the title is most often used for scholars early in their academic careers. It is available for researchers after a couple of years of post-doc work, but it can also be offered to a new Ph.D. coming to work with a specific faculty member on a research program of mutual interest. PI status can be granted upon application to the Associate Dean for Research in cases where this is appropriate. This position is funded by one or more research grants.

II.5. A Senior Research Scientist is, as the title implies, a researcher who has an established reputation as a scientist in Space Physics. Anticipated experience would be 4-6 years beyond the Ph.D. degree, and thus this is the anticipated promotion track position for a Research Scientist. A Senior Research Scientist appointment allows the individual to be the PI of a research grant or contract, thus a level of independence is expected. This may be done within the general context of remaining within a senior faculty member’s research team, or the individual could direct their own program. A Senior Research Scientist may be the ‘career position’ for an increasingly successful and independent scholar, and thus it is the highest non-faculty rank available for a researcher within the Center. This position is funded by one or more research grants.

Duties and Responsibilities: All research staff members are expected to adhere to the high levels of professional conduct expected within any major research enterprise. While each research staff member is part of a specific research group within the Center, it is expected that “good citizenship” will result in contributions to all CSP activities, ranging from attendance at meetings sponsored within the Center (e.g., Journal Clubs and Seminars), to guidance offered to students, as well as mutual collegial support.