

Options for Integrating Young Researchers into BRDI's Community and Activities

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Rationale

In thinking about the stronger involvement of young researchers in the activities of the Board on Research Data and Information (BRDI), it is worthwhile reiterating the Board's mission and tasks. The Board's mission is to improve the management, policy, and use of digital data and information for science and the broader society. BRDI maintains surveillance of the field and proposes initiatives that might be undertaken at the National Research Council (NRC), targeted at challenges of national and international significance of particular interest to its sponsors. The Board engages in planning, program development, and administrative oversight of projects launched under its auspices, and undertakes the following tasks within its primary mission areas:

1. Addresses emerging issues in the management, policy, and use of research data and information at the national and international levels.
2. Through studies and reports of the NRC, provides independent and objective advice, reviews of programs, and assessment of priorities concerning research data and information activities and interests of its sponsors.
3. Encourages and facilitates collaboration across disciplines, sectors, and nations with regard to common interests in research data and information activities.
4. Monitors, assesses, and contributes to the development of U.S. government and research community positions on research data and information programs and policies.
5. Initiates or responds to requests for consensus studies, workshops, conferences, and other activities within the Board's mission, and provides oversight for the activities performed under the Board's auspices.
6. Broadly disseminates and communicates the results of the Board's activities to its stakeholders and to the general public.

The Board also serves as the U.S. National Committee for CODATA. The BRDI community and activities are thus interdisciplinary with emphasis on activities that are of strategic importance to the U.S., but also have some strong international connections. BRDI is thus well positioned to take a leading role in mentoring and preparing American young researchers (graduate students and post docs, and possibly junior faculty under age 40) to play an active role in addressing the emerging issues in the management, policy, and use of research data and information at the national and international levels.

Such an activity also would be consistent with BRDI's goal to encourage and facilitate collaboration across disciplines and sectors with regard to common interests in research data and information activities. BRDI could provide young researchers with a unique enabling environment focused on developing practical skills and practices that may not be usually offered through their academic environments. Such skills and practices, important for those interested in the digital policy arena, would include working with diverse groups of academics, practitioners, and government officials; collaborating with colleagues from different sectors and cultures; advocacy skills; fund raising; project management; budgeting; writing advisory reports; organization of national and international events; and so on.

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While young faculty who are on a tenure track positions also could be part of this focus, graduate students and postdocs would be the main target of this activity. At these stages of their careers, young researchers are still deciding their career plans and objectives (e.g., academia, industry, government, international development, etc), and some experience and exposure to NRC activities could have a beneficial effect on their decisions and perhaps attract more young researchers to the areas that BRDI is promoting. This could be more challenging, however, for young faculty who are on a tenure track position in light of the demands of such a position and the possible conflicts of such opportunities to their academic careers.

More specifically, in view of these considerations, a systematic mentoring approach at the Board level could:

- 1- Encourage young researchers to participate in Academy activities in order to get first-hand experience in areas related to their studies and interests. This could be facilitated through one-to-one mentorship activities.
- 2- Expose young researchers to issues of national and global concern.
- 3- Help young researchers expand their professional and personal networks through interdisciplinary national and international collaborations.
- 4- Encourage and enable young researchers to start and sustain their own activities in subject areas seeded by the Board's focus.
- 5- Develop a network of researchers who are able and interested to represent the U.S. in different national and global *e*-science and digital policy areas.

In addition to these direct and indirect benefits to young researchers, such an approach could also be beneficial to BRDI itself. By having a dynamic and experienced group of young experts, BRDI would be expanding its intellectual resources diversifying its activities and impact. Such an activity also could become a model for other Boards at the National Academies and perhaps other institutions, which would help institutionalize such an approach.

Suggested Steps

The following are suggestions to achieve these goals, roughly in increasing order of difficulty or expense in their implementation:

1. BRDI Associates. BRDI Members could informally involve one or possibly two young researchers from their departments in their activities with the Board. Such "Associates" would be involved in some of the tasks or issues that the mentoring Board Members work on and would receive a letter to that effect. They would not, however, be appointed to full Board membership or have administrative authority. By designating young Associates as affiliated with the Board's work we would be helping to prepare the next generation of science policy experts, as well as identifying potential future NRC participants.

Some of the activities that these Associates could work on include the tasks that some of the Board's members might not have the time to work on, such as preparatory work for meetings, background research for certain projects, etc. These tasks, however, should involve some one-to-one mentoring. BRDI Associates also could be involved in some thematic or regional areas of the Board's work. For example, BRDI Members could select one (or more, if necessary) young experts to help with research on the Board's activities in a certain country or region (e.g., China, EU). The same approach could also apply to some thematic areas (e.g., data management, socioeconomic value of data and information, etc.).

Such assistance would be recognized by a letter from the Board chair or by a certificate of appreciation from the National Research Council following the termination of activities by each Associate. One issue that requires further clarifications is whether the Associates would be given access to privileged Academy documentation and meetings (e.g., executive sessions) or not. If they are, the Board through the NRC should provide for their appointment as “unpaid consultants.” See Appendix A for a description of the policy and a sample appointment letter. That step would reduce confusion for the BRDI Members in terms of what they should share with their Associates; for instance, there are always sensitivities about the sharing of interim progress reports or report review draft reports with others. The same issue applies to project oversight processes by the Board. An alternative would be to specify that the decision on access (appointment as an unpaid consultant) would be made on a project-by-project basis.

2. BRDI Fellowships and Internships: The Board already takes part in mentoring at least one Christine Mirzayan Fellow every year. This Fellowship is an Academy program “designed to engage graduate science, engineering, medical, veterinary, business, and law students in the analysis and creation of science and technology policy and to familiarize them with the interactions of science, technology, and government.” For more background information about this Fellowship program, see <http://www.nationalacademies.org/grantprograms.html>. Recent Fellows have benefited substantially from such association with the Board and the US CODATA. Raed Sharif and Puneet Kishor, both PhD candidates, worked on several projects with the Board’s predecessor unit. As a result, Raed Sharif was hired on a part-time basis for 2.5 years. Both students subsequently changed their dissertation subjects to pursue themes that they worked on during their Fellowship. The Board’s Fellow for winter 2009, Dr. Lucie Yang, an MD/PhD from UCSF, also was a postdoctoral fellow at the Wake Forest University Medical Center. Dr. Yang was interested in reorienting her career to science policy and found a job at the FDA immediately following her Fellowship.

In addition to these Fellowships, the Board can consider offering short and longer-term internships for graduate students and post-docs on an ongoing basis, subject to availability of funding. These would be separate from the Christine Mirzayan Fellowship program and would be offered on an as-needed, case-by-case basis. In the summer of 2009, the Board employed Tania Dutta, an intern from the UC, Berkeley School of Public Policy. In the winter of 2010, she helped out informally with the US-China Roundtable activities. Ms. Dutta, who also has an M.S. and M.A. in biology, provided a lot of assistance with the Microbial Research Commons project and other Board activities.

3. BRDI Prize for Young Scientists: BRDI might establish a biennial prize in collaboration with international CODATA. If this option were adopted, the Board would have to develop criteria for awarding such a prize; implement a process for nomination, review, and selection; and seek a sponsor or endowment for the prize.

The intended recipients of the prize:

The prize will be awarded to young researchers in the United States (either a citizen or a foreign national working here) who is very active and accomplished in one or more data science areas and has the potential to significantly contribute to the field. The recipient of the award could be any researcher in either the natural or social sciences or engineering.

Eligibility

1. The age limit for the application is 35 years and pre-tenure.
2. They will have either completed their PhD or be enrolled in a PhD program.

Award Details:

1. The award would be made as a travel grant for attending the CODATA conference, an institutional certificate, and a symbolic gift. [If sufficient funding were made available by the sponsor, it could also include a prize of perhaps \$5K or 10K.]
2. The awardee(s) would be expected to write a paper and give an oral presentation of their work at the conference.
3. One or two awards could be given biennially: The first one would be given as a general award for research in this field. The second award, if implemented, would be for a special topic in data sciences. A new topic would be chosen by the Board every two years.

Application process:

- Nominations by two or more reputable sources (e.g., university faculty, Academy or Board members, NRC staff) would be needed for consideration of an individual for the award.
- The nominated applicants should provide the following:
 - a. A biographical sketch or the curriculum vitae of the award applicant.
 - b. A statement that details the applicant's program of study and/or research project.
 - c. A statement from the applicant's research supervisor or other qualified expert that addresses the applicant's suitability for the award.
 - d. An abstract or brief description of the data-related research that the applicant intends to present at the conference.

The criteria for ranking the applications will be based upon:

- a. The strength of the application, i.e., significance/novelty of the work
- b. The academic and non-academic strengths of the applicant.
- c. The nominators' statements of suitability.
- d. Relevance to data issues.

4. BRDI Conference and Workshop Sponsorships: BRDI could seek funding to sponsor an annual meeting of the Associates as well as other more ad hoc meetings for other young researchers. The BRDI Associates could attend one of the semi-annual board meetings and the Board could organize an annual event (ideally piggybacking on a Board meeting) where the Associates meet for 2 extra days. The main objective of this type of BRDI Associates convocation would be to enable the Associates to strategize and coordinate among themselves on BRDI-related activities, as well as on their own projects and plans in the areas in which BRDI is working. In addition, side meetings could be arranged for the Associates with Academy members and offices so they can become familiar with the institution. The meeting would be structured to benefit both the Associates and the Board.

On a more ad hoc basis, young researchers could be invited to attend BRDI's national and international activities, as well as perhaps other related activities organized by other partner organizations. BRDI might consider including such travel support in specific project support. The Board would use such opportunities to stimulate further work and follow-on activities by the travel grantees. It should be noted that the Board's predecessor unit did offer some specific project travel sponsorships in South Africa and Brazil in recent years, which were funded by the NSF.

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APPENDIX A

Academy Procedures for Unpaid Consultants

The procedures described herein apply to the appointment by the institution **of all** unpaid consultants (or contractors). Paid consultants shall be processed in accordance with [Procurement Services procedures](#).

All such unpaid consultant appointments shall:

- (a) **Be** approved by the Major Unit (Division) Executive Director (ED); and
- (b) Be memorialized by written agreements that establish that the unpaid consultant is an agent of the institution. **All** such agreement letters shall be substantially in accordance with the [attached template](#).

In granting approval for the use of unpaid consultants in connection with an NRC/IOM study, the ED shall carefully consider the following issues:

- (a) Who are the contemplated "agents" and what are their specific roles relative to the task being undertaken by the committee (e.g. assignment to the agent to assemble data or conduct analyses; prepare a commissioned paper or a monograph or other written materials for the committee; advise the committee on a specific technical issue; or provide written comments to the committee on a preliminary draft of its report in preparation for and prior to the report review process)?
- (b) Whether it is necessary that the proposed agent attend closed committee meetings and whether there could be adverse public perception of the agent's participation in closed committee meetings?
- (c) Any issues of conflict of interest with the agent's appointment (because such issues need to be evaluated and, if necessary, discussed with the NRC Executive Office (NRCEO) prior to the agent's appointment)?

The RSO shall be responsible for ensuring that there is a written sign-off (or memorandum) by the ED filed for each such **agreement letter**. In the event that a conflict of interest is determined, the memorandum shall indicate clearly how the conflict was addressed.

All agreement letters with unpaid consultants, and the authorization from the ED, shall be filed with the Executive Office for the Major Unit (Division). All such letters shall be immediately accessible upon request by the NRCEO.

DRAFT UNPAID CONSULTANT LETTER [Please use PGA Executive Office Letterhead]

Unpaid Consultant Name

Title

Address, including Institutional Affiliation, if any

City, State, Zip

Dear Unpaid Consultant:

I am pleased to confirm your agreement to provide the following service to the (Major Unit) of the National Academy of Sciences (NAS) and its constituent entities (collectively referred to as the “National Academies”). [Insert appropriate description of the service and delivery schedule.]

You are acting as an independent agent of the National Academies, and not as an employee thereof. Your appointment is in effect from (show start date, and end date if applicable).

Your contributions to the study are important and your willingness to provide voluntary, uncompensated service is appreciated. [No travel is anticipated in connection with your service.] Or [Travel in connection with this activity would be authorized only with written advance approval of the National Academies and reimbursement would be provided in accordance with the institution’s travel policies.

To the extent that you attend sessions of a committee that are held as not open to the public, or have access to committee materials (*e.g.*, internal drafts, votes, tallies, etc.), please note that all such committee deliberative information is viewed by the National Academies as privileged, and shall not be disclosed by you to any persons other than officers, employees, or agents of the National Academies.

All written materials and other works prepared under this agreement and the copyrights therein, in all media and languages, now or hereafter known throughout the world are assigned to and shall be owned by the National Academy of Sciences. This means that these materials shall become the property of the National Academy of Sciences and publications of the material, either prior to or after its acceptance by the National Academy of Sciences, must be authorized by the National Academy of Sciences.

If the responsibilities, terms, and conditions of this agreement are acceptable, please sign and return a copy of this letter to: Name, Title, Major Unit Building Room, The National Academies, 500 Fifth Street, NW Washington, DC 20001. Thank you.

Sincerely yours,

Richard E. Bissell

Cc: RSO
Anna Hall

Accepted: _____ Date: _____

(You may want to consider providing a copy of this agreement letter in your mailing so that consultants can just co-sign and return it to you without having to do any photocopying themselves.)