

NATIONAL LIBRARY OF MEDICINE, NIH
BOARD OF SCIENTIFIC COUNSELORS
MEETING MINUTES
November 12, 2019
9:00 a.m. – 3:00 p.m.

The Board of Scientific Counselors of the National Library of Medicine (NLM) convened on November 12, 2019, in the NLM Board Room, Bethesda, Maryland. The meeting was open to the public.

BSC Members Present

Kevin Johnson, MD, Vanderbilt University Medical Center (*BSC Chair*)
Michael Boehnke, PhD, University of Michigan
Stephen Downs, MD, Indiana University School of Medicine
Kateryna Makova, PhD, Penn State University
Shawn Murphy, MD, PhD, Harvard Medical School
Ming Jack Po, MD, PhD, Google Health
Katherine Pollard, PhD, University of California
Steven Salzberg, PhD, Johns Hopkins University
Donna Slonim, PhD, Tufts University
Pamela Soltis, PhD, University of Florida
Jessica Tenenbaum, PhD, Duke University
James Ostell, PhD, NCBI, NLM (*BSC Executive Secretary*)

NLM Staff Present

Stephen Altschul, PhD, NCBI, NLM
Sameer Antani, PhD, LHC, NLM
L Aravind, PhD, NCBI, NLM
Dennis Benson, PhD, NCBI, NLM
Olivier Bodenreider, PhD, LHC, NLM
Patricia Flatley Brennan, PhD, NLM
Janet Coleman, NCBI, NLM
Dina Demner-Fushman, PhD, LHC, NLM
Xiaofang Jiang, PhD, NCBI, NLM
David Landsman, PhD, NCBI, NLM
Zhiyong Lu, PhD, NCBI, NLM
Jody Nurik, NLM
Ivan Ovcharenko, PhD, NCBI, NLM
Lauren Porter, PhD, NCBI, NLM
Kim Pruitt, PhD, NCBI, NLM
Teresa Przytycka, PhD, NCBI, NLM
Leigh Samsel, NLM
Valerie Schneider, PhD, NCBI, NLM
Greg Schuler, PhD, NCBI, NLM

Jerry Sheehan, NLM
Steve Sherry, PhD, NCBI, NLM
John Spouge, PhD, NCBI, NLM
Bart Trawick, PhD, NCBI, NLM
Diane Tuncer, NLM
Yi-Kuo Yu, PhD, NCBI, NLM

Others Present

Michael Gottesman, OD, NIH

1. Call to Order and Introductory Remarks – Kevin Johnson, MD, MS

Dr. Johnson called the meeting to order and provided introductory remarks about the agenda. The meeting is the first of the new NLM Board of Scientific Counselors (BSC), which merges the former BSCs of the National Center for Biotechnology Information (NCBI) and Lister Hill Center (LHC).

The BSC voted in favor of approving the minutes from the last meetings of the NCBI BSC and the LHC BSC.

2. Context for the BSC Charter – Patricia Flatley Brennan, RN, PhD

Dr. Brennan thanked the BSC members for their service to NLM. She reviewed the context for the new merged BSC, which resulted from the November 2018 recommendations of the Blue Ribbon Panel that evaluated NLM's Intramural Research Program (IRP). Other changes resulting from the Panel's recommendations include NLM's plan to increase its investment in intramural research and to operate its intramural research program under a single Scientific Director.

Highlights of Dr. Brennan's comments

- NLM would like to increase its IRP Investigators from the current 12 to about 20 within the next two years
- A single BSC will be helpful in guiding the future directions of NLM's IRP program as it grows, including advice about potential "audacious, high-risk, high-reward" projects
- NLM would like the BSC to begin providing a report to NLM's Board of Regents when there is relevant information to convey
- LHC's research division and NCBI's research division (the Computational Biology Branch) will continue to be separate branches, but they both will be part of NLM's Intramural Research Program and under a single Scientific Director
- The three short-list candidates for the Scientific Director position have been interviewed and NLM expects to make a decision in the next 6 to 8 weeks
- NCBI Director Jim Ostell, PhD, will be retiring on April 1, 2020; Steve Sherry, PhD, will serve as NCBI Acting Director
- The search committee for a new NCBI Director will be co-chaired by Susan Gregurick, PhD, Associate Director for Data Science (ADDS) and the Director of the NIH Office of

Data Science Strategy (ODSS), and Bruce Tromberg, PhD, Director of the National Institute of Biomedical Imaging and Bioengineering (NIBIB)

- Dr. Brennan suggested that at least 1 BSC member be on the search committee for a new NCBI Director

Dr. Brennan also outlined several roles for the BSC:

- Guide NLM's investment in intramural research
- Advise on the progress of NLM tenure-track investigators
- Assess the progress of NLM investigators
- Evaluate the quality and productivity of NLM's training program
- Provide quadrennial reviews of the laboratory and branch chiefs in the NLM IRP
- Participate in the evaluation of the Scientific Director
- Advise NLM on alignment of BSC with other NIH BSCs: members of most NIH BSCs have 5-year terms (versus 3 years for NLM BSCs) and people usually serve as Chair for 2 years (versus 1 year for NLM BSCs)

3. Charge to the NLM BSC – Michael Gottesman, MD

Dr. Gottesman described the principles behind NIH BSCs and their role of providing reviews and advice. He also presented guidance about BSC procedures.

Highlights of Dr. Gottesman's comments and the ensuing discussion

- ICs usually follow BSC advice, but they are not required to do so.
- The BSC does not directly review the Scientific Director (SD) but they participate in two ways: they review the intramural program under the SD, and the BSC is represented on a separate committee that reviews the SD.
- NLM and the Clinical Center are the only ICs where the BSC reviews include assessments of the IC's services.
- The BSC should work with NLM to develop a format for BSC reviews.
- Scope of BSC reviews of scientists should include mentoring and, when applicable, their performance as supervisors.
- Dr. Gottesman noted that in many ICs the BSC reviews now look at future plans as well as what has been done over the last four years, with a mix of one-half to two-thirds retrospective and one-third to one-half prospective. Tenure-track investigators tend to focus more on prospective work, while tenured investigators focus on retrospective.
- Differing opinions were expressed about the extent to which future plans should be part of BSC reviews: several NLM scientists said they preferred the focus to be retrospective, while several BSC members commented on the usefulness of including future plans, with the understanding that scientists would not be obligated to follow predicted future directions.
- Dr. Gottesman said it is up to NLM and the BSC to determine the desired length of BSC appointment and the length that any individual serves as BSC chair.

4. Scope and Content of NLM Intramural Research Program – James Ostell, PhD, Olivier Bodenreider, MD, PhD, & David Landsman, PhD

Dr. Ostell provided general background about how NCBI was organized to include both researchers working in an academic-like setting (CBB) and a group that is focused on production of services and tools (the Information Engineering Branch, or IEB). The two groups collaborate and benefit each other, for example producing BLAST and the Pathogen Pipeline.

Dr. Landsman and Dr. Bodenreider briefly described the key research areas of CBB and LHC principal investigators, breaking the research down into 2 general categories: computational biology and biomedical informatics.

Computational Biology

Sequence Statistics (Drs. Altschul, Spouge & Yu)

Evolutionary Genomics (Drs. Aravind, Jiang & Koonin)

Transcription, Chromatin and Networks (Drs. Ovcharenko, Landsman & Przytycka)

Biomedical Informatics

Image Processing (Drs. Antani & Lu)

Natural Language Processing (Drs. Demner-Fushman & Lu)

Health Information Standards and Discovery (Drs. Bodenreider & McDonald)

Post-presentation discussion included questions about research areas that might be the focus of new hires (e.g., methods, imaging, data-driven discovery, and linguistics) as well as logistical issues.

5. NLM Intramural Research Program (IRP) Training Program – Olivier Bodenreider, MD, PhD, & David Landsman, PhD

Drs. Bodenreider and Landsman explained that LHC and NCBI training programs have differed, but procedures for recruitment and evaluation of postdoctoral fellows will be harmonized in the future, and there is already a single seminar program. The NLM IRP training program will be under the new Scientific Director. A new website for the program is under construction.

Dr. Brennan mentioned NLM and NIH efforts to ensure a safe and effective workplace, including issues surrounding harassment and availability of childcare.

In response to a question about whether the training program would be merged or kept distinct, Dr. Brennan asked the BSC for their recommendations. Two BSC members who were trained at Stanford noted that their program required training in a broad range of topics and that the broad focus proved to be useful in their careers.

6. Proposed Procedure of NLM BSC in Reviews – David Landsman, PhD

Dr. Landsman described proposed procedures for reviews by the new BSC, noting that the intent was to stimulate discussion and obtain input from the BSC on desired procedures. The BSC

recommended several changes to the proposed procedures; a summary of their discussion and recommendation follows in section 7 below.

Proposed scope, purpose, and frequency of BSC reviews

- The BSC reviews Tenure-Track Investigators at 2 years, at year 4 if necessary, and at year 6.
- Senior Investigators and applicable Senior Scientists (those with PI status that are in the IRP) are reviewed every 4 years.
- IRP Laboratory/Branch Chiefs are reviewed every 4 years, but the policy is in flux as NIH is currently developing procedures around Laboratory/Branch Chiefs.
- The BSC also may have some role in review of the Scientific Director (as described by Dr. Gottesman in Section 3 above), whose reviews occur every 5 years.

The purpose of scientist reviews is assessment of productivity, quality of scientific work, quality of mentoring, and appropriateness of resources (generally staff). In addition, the BSC will make recommendations on tenure for Tenure-Track Investigators and assess the IRP training program.

Proposed written report and oral presentation

Investigators being reviewed will prepare a 15- to 25-page written report of their work that will be provided to the BSC at least two weeks before their meeting. Investigators are scored on the following categories: significance, approach, innovation, environment, support, investigator training, productivity, and mentoring.

The oral presentation to the BSC will be 30 minutes, with an additional 15-minute private session with the BSC.

Proposed criteria for evaluation

The criteria are based on NIH's review model for IRPs. There are six categories: outstanding, excellent, very good, average, fair, and poor.

Training program review

There are two possible models for assessment of the training program: as part of a PI's assessment (the NCBI model), or independent of the PI's assessment (the LHC model). The suggested frequency of review is once a year if the review is independent of PI assessments. The format could be a poster session (the NCBI model) or interviews by the BSC (the LHC model). NLM would like input on whether or not summer students should be included.

7. Discussion – Kevin Johnson, MD, MS

The BSC discussed the format and procedures they would like to use going forward for review of NLM investigators and the training program.

Discussion highlights and conclusions

- Dr. Brennan noted that NLM has a significant financial investment in training and as part of the review of the training program would like input on a number of areas, including: getting the best leverage from NLM's investment, reaching underrepresented minorities,

appropriate rigor of the program, and how to balance interesting exploratory research that might fail versus safer research.

- BSC members agreed that the training program should be reviewed as a program and that training/mentoring also should be an element of PI reviews.
- The BSC suggested that reviews of the training program be done in “chunks,” beginning with training of postdocs (who represent approximately 90% of trainees) and later covering the remaining groups (medical students, summer students, etc.).
- The BSC would like to have investigators’ written reports a month before the meeting rather than two weeks before.
- Primary and secondary reviewers of investigators should be determined before BSC meetings.
- The Board discussed several approaches to developing a template for investigators’ reports to the BSC. Ultimately the BSC concluded that a formal template might not be necessary and instead investigators could be given “high-level” guidance to follow. Drs. Landsman and Bodenreider agreed to provide draft guidance that would then be further developed by Drs. Downs and Pollard before review by the whole BSC. Items to consider in drafting the guidance include NIH requirements/guidance and Robert Wood Johnson Foundation’s 12 questions, which Dr. Johnson said he would send to BSC members.
- Investigator reports should be no more than 15 pages.
- Several BSC members suggested limiting the number of papers submitted with investigators’ reports to 3, although others suggested flexibility in the number with the understanding that the BSC might only read 3 papers.
- Investigator papers should be submitted via internet links instead of as full documents.
- Investigator presentations should be up to 30 minutes with an additional 30 minutes for questions.
- Investigator oral presentations should not be a rehashing of their report or a reading of their slides.
- The BSC Chair suggested that oral presentations focus on where the research is going, while the written submission could be more focused on what has been accomplished.
- When applicable, investigators should be reviewed not only on the basis of their papers but also on other kinds of productivity, such as code, tools, and services.
- Some former NCBI BSC members indicated an interest in continuing to review senior IEB scientists and hearing about new production services. Dr. Brennan said NLM would look internally at the issue of IEB senior scientist reviews. Regarding production services, the BSC Chair raised concern about being able to include those discussions during a 1-day meeting when there generally would be 2 or more investigator reviews. Ultimately the BSC agreed to the approach described below, with the understanding that the spring 2020 meeting would be a trial and the Board could reconsider the approach after that meeting.
 - BSC meetings will be 1 day in length, but members will try to arrive the day before in time for dinner, where there will be an opportunity to talk about new services, tools, etc. that are unrelated to the investigators being reviewed at the formal BSC meeting.
 - BSC meetings will be held in the middle of the week so that members do not have to travel on Mondays or Fridays.

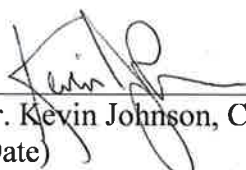
- NLM will look into the logistics of the gatherings that would be held the evening before BSC meetings (e.g., whether to hold on NIH campus or in a hotel).
- While some BSC members expressed preference for the LHC model of completing written reviews during the meeting, the BSC recognized that it might be difficult to do so in the allotted time. There was general agreement to try the approach of having the primary reviewers draft their reviews shortly after the meeting and then circulate the reviews to the full BSC for comment. Dr. Johnson suggested talking offline about ways to get some writing done during the meeting.
- The BSC also discussed the problem of companies using ClinicalTrials.gov to promote products like stem cell therapies that may be very costly to patients. Drs. Ostell and Brennan explained the limitations of what NIH is able to do with regard to warnings on the ClinicalTrials.gov website.

8. Plans for next meeting

The next BSC meeting is tentatively scheduled for April 23, 2020, with members arriving the evening of April 22 for dinner/discussion.

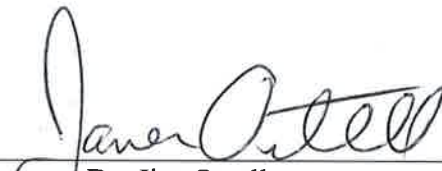
9. Adjournment

The meeting adjourned at 2:40 p.m.



 Dr. Kevin Johnson, Chair (Date)
 Board of Scientific Counselors

1/20/20



 Dr. Jim Ostell,
 Acting Scientific Director, NCBI, NLM



 Dr. Milton Corn, (Date)
 Acting Scientific Director, LHC, NLM

2/3/2020