

# HPS Collaboration Charter and Bylaws

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## 1 Goal

The main goal of the Heavy Photon Search (HPS) collaboration is to design, construct, maintain, operate and manage the HPS detector system at Jefferson Lab in Hall B. The collaboration will seek the full utilization of the detector system, maximizing all its possible physics outputs. The main physics goal will be the search for vector bosons in the mass range of about  $0.02 \text{ GeV}/c^2$  to  $1 \text{ GeV}/c^2$  (photon-like particles named “heavy photons”).

## 2 Collaboration Membership

The founding members of the HPS collaboration are listed on the proposal. Members of the HPS Collaboration are expected to perform ongoing service for HPS and to contribute to the goals of the HPS experiment. The Executive Committee is responsible for maintaining a list of active members, reviewing the membership status of members and determining which members should be considered for deletion (by ballot) from the Collaboration.

### 2.1 Membership

1. An individual can become a member of the HPS Collaboration based on his/her commitment and contributions to the HPS experiment in instrumentation (including instrumentation in Hall B regarding HPS) and/or software.
2. The intended contributions to the Collaboration should be submitted in writing to the Executive Committee (EC) at least 60 days prior to the election.
3. Such an individual becomes a member by a two-thirds vote of those members who actually vote in the election, with a quorum of 15 members (a quorum will hereafter be defined as 15 members).
4. There shall be no limit placed upon the number of times an individual may be considered for membership.

## 2.2 Election of Members

1. Every member of the Collaboration will have the right to vote in the election of members.
2. Elections for membership will take place at collaboration meetings.
3. Membership elections will be by secret ballot, which are tallied by the spokespersons. A member may submit a ballot prior to the collaboration meeting by electronic mail.
4. It is the responsibility of the Executive Committee to oversee membership elections.
5. The names and application information of the individuals being considered in membership elections must be made known to the Collaboration at least 30 days prior to the election. Notification by electronic mail is considered sufficient.
6. A collaboration member who supervises a graduate student or postdoctoral researcher they wish to assign to work on the HPS experiment instrumentation and/or software will submit a written statement to the Executive Committee of what the student or postdoc will contribute to the experiment. On approval by the EC, the student or postdoc will be a member of the collaboration. For a graduate student who will earn a PhD or an Ms from their work on HPS, their advisor must follow the procedure in Section 10.
  - (a) An undergraduate student cannot be a member, but can be an author if the student has done a significant contribution to the experiment, as judged by the Executive Committee.
  - (b) The PI of each group is responsible for informing the HPS Executive Committee of any changes within their groups pertaining to membership.

## 2.3 Deletion of Members

1. A member shall be dropped from the Collaboration if that member notifies the Chairperson of the Executive Committee in writing that he/she wishes to be removed from the Collaboration. No voting is required for this removal.
2. Insufficient participation for a period of one year in the Collaboration activities will normally be grounds for deletion, as determined by the EC.
3. A member considered for deletion (by ballot) shall be notified in writing by the Chairperson of the Executive Committee at least 60 days prior to the ballot.
4. The names of the individuals being considered for deletion must be made known to the Collaboration at least 30 days prior to the vote. Notification by electronic mail is considered sufficient.

5. A member will be dropped from the Collaboration if a two-thirds majority of those members who actually cast a ballot on this individual approves the removal (a quorum is required).

### **3 Governance**

1. The Collaboration has the ultimate authority on all issues involving the Collaboration on a one-member, one-vote basis.
2. Changes in the Collaboration Charter shall require a two-thirds majority of at least a quorum of those full members who actually cast a yes or no vote on the specific issue.
3. Changes in the Collaboration Charter may not be voted on at the same collaboration meeting at which they are proposed.
4. The Executive Committee will be responsible for overseeing ballots to modify the Collaboration Charter.
5. All other matters brought to a vote at a regular meeting will be decided by a majority of those present unless specified otherwise in this Charter.

### **4 Working Groups**

1. The EC may establish Working Groups dedicated to HPS instrumentation, software, or physics analysis topics as they see necessary.
2. Each Working Group will have a leader appointed by the EC, who will lead the group and communicate with the EC and interact with the Collaboration. Collaboration members may join and work in whichever Working Groups they wish.

### **5 Management**

1. The Collaboration shall be managed by an Executive Committee (EC) consisting of seven people, including the spokespersons of the experiment, and four members of the collaboration elected by the collaboration. The EC shall make decisions regarding major collaboration issues, in particular: membership, coordination of groups and allocation of resources within the Collaboration, resolution of conflicts in construction and operation caused by different physics requirements, scheduling, and the coordination of student theses. The Executive committee shall also monitor the progress in design and construction of HPS instrumentation. They will have the overall responsibility for assuring the smooth operation of the Collaboration.

- (a) Any matter on which there are more than two dissenting votes shall be brought to the Collaboration for a vote.
  - (b) The EC shall keep minutes of EC meetings that will be made available to the Collaboration. In addition, the Chairperson of the Executive Committee shall promptly inform the members of the Collaboration in writing of major actions taken by the Executive Committee.
2. The Chairperson of the Executive Committee shall be elected by the EC, and shall serve a term of two years.
3. The elected members of the Executive Committee shall be elected for terms of two years, with no limitation on succession. For the first EC, two members will be elected for one year, and two for two years, so that in subsequent years the terms are staggered. In the case that a spokesperson of the experiment is no longer a part of the experiment, their position on the EC will become an elected position.
4. The members of the Executive Committee must be members of the Collaboration in good standing.
5. The shift policy will be proposed by the EC and voted on for approval by the collaboration; it is expected that all members will be doing a share of the shift work.
6. Decisions on membership fall to the EC; in the case of dispute in the EC, these decisions will be voted on by the collaboration (see Section 2).
7. The authorship lists of official papers will be proposed by the EC and voted for approval by the Collaboration (see Section 11.4.4).
8. Approval of official results, both preliminary and final, will be coordinated by the EC and the Publications and Presentations Committee and voted on by the Collaboration before public release (see Section 11.3). If a result is not approved by the Collaboration, it cannot be shown publicly, not even on a personal basis.
9. If a person appeals a decision made by the EC, it will be brought to a Collaboration vote; if the Collaboration rejects it, that decision is final.

## 6 Elections of Committee Representatives

1. Every member of the Collaboration will have the right to vote in the election of the elected positions of the Executive Committee and the Publications and Presentations Committee.
2. Election of new committee members, including the Chairperson of the Executive Committee, will take place at the last scheduled collaboration meeting during the spring so

that new members may take their positions starting September 1 of each year. Before the establishment of a full, elected EC, the spokespeople will act as the EC before the next collaboration meeting while they coordinate the elections to fill the positions on the committees.

3. Nominations will be solicited by the EC from the Collaboration for at least two weeks. After verifying that the nominated individuals agree to stand for election, the EC will then present the list of candidates for each position for the election to the Collaboration no later than two weeks before the election.
4. Elections will be by secret ballot. A member may submit his/her ballot prior to the collaboration meeting by mail or by electronic mail. The spokespersons will count the ballots.
5. A special election may be called by the Executive Committee to replace the a committee member as needed (including the Chairperson).
  - (a) Members must be notified in writing of a special election at least 30 days prior to the special election.
  - (b) A special election may take place at any time.

## **7 Meetings**

1. The Chairperson of the Executive Committee shall convene regular meetings of the full Collaboration, not less frequently than two times a year.
2. The Executive Committee shall meet as required on a regular basis.

## **8 Proposals Concerning the Use of HPS Instrumentation**

1. Proposals, for using the HPS instrumentation can be submitted by members of the Collaboration to the JLab Program Advisory Committee only with the approval of the full HPS Collaboration.
2. The spokespersons for these proposals must be members of the Collaboration.

## **9 Data Management**

All members of the Collaboration shall have free and equal access to any data taken by the Collaboration. Members shall inform the Chairperson of the Executive Committee of their plans to analyze data.

## 10 Thesis Policy

Graduate students (PhD, Ms) are expected to play a key role in the Heavy Photon Search (HPS) experiment. It is then of crucial importance that the students involved in the HPS experiment be well guided and mentored. This will not only maximize the probability of success of the HPS experiment but will also ensure that a student has a rewarding graduate career. The following are general guidelines for student theses.

### 10.1 Graduate Student Criterion

Any graduate student who plans to commit themselves to the HPS experiment with the intention of writing a thesis (either PhD or Ms) must fulfill the following criteria:

1. The graduate student's thesis advisor or proxy advisor must be a member of the HPS Collaboration.
  - (a) In the case where the graduate student's institution appoints them a thesis advisor not involved with the HPS experiment, a proxy can serve as the student's HPS advisor, pending approval of the EC.
    - i. The HPS advisor must themselves be a member of the HPS Collaboration and must be a representative of the same institution as the graduate student they will advise.
  - (b) Prior to approval by the EC, the HPS advisor must submit a formal letter outlining his intent to take on the responsibilities as the graduate student's thesis advisor.
    - i. The EC will have 30 days after receiving the letter to approve the appointment.
  - (c) The graduate student's institutional thesis advisor must abide by the same rules regarding the publishing of HPS data and results as the Collaboration, even if they are not a member of the Collaboration (see Section 11.3).

### 10.2 Selection of a thesis topic

The EC will work with thesis advisors and their students to satisfy any requirements that a university may require for a thesis topic and to avoid possible conflicts with other advisors and students. To accomplish this, the following criteria must be followed when a thesis topic is identified as suitable by their thesis advisor:

1. When a specific part of the HPS experiment is identified by the graduate student's thesis advisor as being a suitable graduate thesis, the thesis advisor must submit a proposal to the EC.
2. The EC will have 30 days to review the proposal and provide written notification to thesis advisor and graduate student of its approval or suggestions of a more suitable topic that is available in the case of a prior claim to the proposed topic.

3. All theses projects must be approved by the EC. The EC will coordinate the thesis topics and formally endorse approved students as HPS graduate students.

The EC shall accept as many students as they feel is appropriate. The EC is responsible for maintaining a current list of thesis topics which have been or can be assigned to graduate students. This list shall be easily accessible to any HPS Collaborator.

## **11 HPS Collaboration Policy for Presentations and Publications**

### **11.1 The HPS Publications and Presentations Committee**

The HPS Publications and Presentations Committee (PPC) is responsible for the accurate and broad dissemination of results arising from HPS activities to the scientific community. To accomplish these goals, the HPS PPC will select speakers, solicit invitations to speak, review content of talks, and coordinate the release of results through talks and proceedings. They maintain the public image of the Collaboration.

The HPS Presentations and Publications Committee has these responsibilities:

1. active promotion of speaking opportunities about the HPS experiment,
2. coordinating contributed and invited talks about HPS and distributing the speaking opportunities fairly within the collaboration,
3. maintaining a database of talks and conference publications, ensuring that up to date records of invited and contributed talks and associated conference publications are maintained for the HPS collaboration (including information such as the conference name, date, location, speaker's name, title of talk, citation data for conference proceedings if applicable, a copy of transparencies, and a copy of the abstract and conference paper, if applicable).
4. actively promote the dissemination of information, data and results of the experiment in publication,
5. posting and maintaining a website with a calendar of relevant upcoming conferences and workshops with conference name, date, location of conference, abstract submission deadlines, and when decided, the name(s) of intended speaker(s) and talk titles if applicable.

The HPS Publications and Presentations Committee shall act in accordance with bylaws approved by the Collaboration for dissemination of results to the scientific community. The members of the Committee shall be elected and serve for two years, as outlined above in Section 6. The Committee shall have five members, although more can be added if needed. The members of the Committee shall elect a Chairperson from within the committee, who will have a term of 2 years.



## 11.2 Presentations

All invitations for talks based on HPS results fall under the purview of the HPS Presentations and Publications Committee. Members who receive invitations for such talks will forward those invitations to the HPS PPC Committee. The talks will be selected according to these principles:

1. Speaking opportunities should be broadly distributed among the collaboration.
2. Contributed talks on instrumentation development and testing are particularly encouraged during the construction phase of the experiment.
3. For invited talks, special consideration should be given to individuals who are specifically approached by an organizing committee, although the final decision should be based on what is best for the collaboration as a whole.
4. Special circumstances to be considered for the allocation of invited talks include job opportunities for students, post-docs and other personnel, tenure and promotions for faculty and laboratory personnel, and individuals under consideration for grant renewal.
5. Other factors to be considered for the allocation of invited talks include the impact of the contributions that have been made to the experiment and the quantity and quality of previous talks delivered by the individuals.
6. It is at the discretion of the Committee whether to require dry runs of talks before the event.

Individuals who agree to give conference talks are responsible for submitting the above information to the committee and for posting it on the relevant web page. The committee will remind delinquent speakers to provide this information as necessary. Invited seminars and colloquia which are not part of a formal conference or workshop need not be entered in the data base, but collaborators are invited to submit this information for posting in any case.

### 11.2.1 Contributed Talks

Individuals are encouraged to volunteer to give contributed talks on the HPS experiment. Talks on technical subjects should be discussed within the relevant working groups, and proposals should be sent to the Presentations and Publications Committee. If more than one individual volunteers to speak on the same topic, the committee will make a decision, guided by the principles outlined above. Proposals for general HPS contributed talks will be reviewed using the guiding principles outlined above. The committee will make the final decision on speaking opportunities. In the case of a conflict, the individual(s) not selected will be given priority at the next opportunity. Conflicts are not expected to arise in the normal course of events, since any given conference can accommodate several contributed talks on different aspects of the experiment.

**Abstracts for Contributed Talks:** The HPS Collaboration should see the abstract two weeks before it is due to be submitted. Final approval to submit the abstract comes from the Publication Committee.

**Conference Talks:** The HPS Collaboration should see an electronic version of the talk, even when consisting only of a set of figures to be displayed, at least two weeks before the talk is to be given, or one week before the speaker leaves for the conference, in case changes cannot be made after leaving. Final approval for the talk comes from the Publication Committee.

### 11.2.2 Invited Talks

Invited talks provide an important opportunity to showcase the experiment and make funding agencies and influential members of the physics community aware of our work. Members of the collaboration who serve on conference program committees should take an active role in promoting invited talks on HPS.

Invited talks will be shared among collaboration members in an appropriate fashion. Individuals who are specifically invited to give a talk on HPS should inform the conference organizers that the talks are distributed amongst the collaboration according to our talks policy, and that they may contact the HPS Publications and Presentations Committee if they have a specific speaker preference. (In rare cases – e.g., a plenary session at a large meeting – the Committee may have to allow a queue-jump if the invitation is contingent upon a specific person giving the talk.) When a generic invited talk is available, the Committee will call for volunteers and make recommendations to the spokespersons, who will make the final decision on speaking opportunities, based on the principles outlined below.

1. Note that this policy does not apply to invited review talks which might include reference to HPS in the context of a broader presentation, or to seminars and colloquia.

**Abstracts for Invited Talks:** The HPS Collaboration should see the abstract two weeks before it is due to be submitted. Final approval to submit the abstract comes from the Publication Committee.

**Conference Talks:** The HPS Collaboration should see an electronic version of the talk, even when consisting only of a set of figures to be displayed, at least two weeks before the talk is to be given, or one week before the speaker leaves for the conference, in case changes cannot be made after leaving. Final approval for the talk comes from the Publication Committee.

### 11.2.3 Seminars and Colloquia

Members of the collaboration are encouraged to give research seminars and colloquia to promote the experiment wherever possible. These arrangements may be handled by individual collaboration members at their discretion and will not be reviewed by the Committee. However, speakers are requested to post their slides on the HPS web page as a courtesy to the

collaboration. Presentation of data and results for seminars and colloquia are subject to the same guidelines as for conference talks, as outlined in Section 11.3 below.

#### 11.2.4 Conference Proceedings

See Section 11.4.1 in publications.

### 11.3 Physics Data and Results for Presentation and Publication

Test data and measurements that illustrate the performance of the HPS apparatus, beam quality etc., may be shown during the development stage of the experiment at the speaker's discretion. However, HPS physics data and results must not be presented publicly without the consent of the collaboration.

For talks at which HPS physics data are to be presented, “key transparencies” should be circulated for comment as far in advance of the talk as possible. The decision to present the data must be made by the Collaboration prior to the presentation of the talk (approval can be granted in a phone conference); the circulation of “key transparencies” is intended to provide opportunity for useful feedback to the speaker from the collaboration at large rather than to be used as a basis for deciding what may or may not be presented in public.

**Preliminary and Final Results:** For any particular physics quantity, members of the collaboration should only show the official “preliminary” and the “final” result plots that have been agreed on by the collaboration as a whole. These results should be the subject of collaboration-wide discussion, and final approval for dissemination will come from both the Executive and Publication Committees and then the Collaboration, as outlined below.

**Approved Plots of Physics Data:** As the Collaboration develops results, they should be displayed on “approved plots” that everyone will use in talks and publications. These plots should be of very high quality and general usefulness. Plots that have been approved for release by the Publications Committee and the Executive Committee will be sent to the Collaboration for discussion and for a vote on whether to release the results. A two-thirds vote of approval from the Collaboration will make the results official. Preliminary results should be clearly labeled as such. These plots should be maintained in a protected web area, and if published can be moved to an open web area. A descriptive text should accompany these plots. The Publication Committee may decide that a certain plot is superseded and remove it from the web site.

### 11.4 Publications

Any paper reporting the result of an experiment using HPS data requires the approval of the Collaboration before publication. Authorship is by alphabetical order of the authors' family names. Authorship issues fall under the domain of the EC.

1. Authorship of official HPS physics and instrumentation papers will be alphabetical. Authorship will follow an opt-out policy, where authors are included on a paper unless they choose to be taken off the author list.
2. Authorship of instrumentation papers on specific subsystems will be those members who are involved with that subsystem.

#### **11.4.1 Proceedings from Conference Talks**

Conference papers shall be made available to the collaboration for review before being submitted for publication. Authors shall circulate drafts ahead of the submission deadline, allowing at least two weeks for feedback from the collaboration. Final approval to submit the manuscript comes from the Publication Committee. The author shall appear in the form “Jane Doe, for the HPS Collaboration”.

#### **11.4.2 Instrumentation Papers on Specific Subsystems**

Instrumentation papers on specific subsystems shall follow the same procedure as conference proceedings, and will be made available to the collaboration for review before being submitted for publication. Authors shall circulate drafts ahead of the submission deadline, allowing at least two weeks for feedback from the collaboration. Final approval to submit the manuscript comes from the Publication Committee.

#### **11.4.3 Refereed Publications**

Before publication of any results, an analysis note (or notes) should be prepared that describes the details of the analysis. This note will be submitted to the Executive and Publication Committees, and will be made available to the Collaboration for review. Approval from the EC and PPC will allow a manuscript to be prepared for publication.

For each proposed paper, a writing team will be formed by the Publication and Presentations Committee, composed of those persons most closely associated with the analysis of the data and knowledgeable about the instrumentation, and one or two senior people not associated with the analysis of the data. They should prepare a manuscript they believe is suitable for submission to a journal, i.e. with final figures, correct spelling and grammar, etc. The collaboration will be given two weeks to make comments on this first draft. Then a “review team” will be formed, composed of the writing team, one member of the Publication Committee and two other suitable members of the Collaboration, to take into account these comments and form a second draft. The collaboration will have two more weeks for final comments on the second draft. The comments for the second draft may not ask for major changes to the manuscript, but may only point out small problems that were not noticed in the first round. All comments regarding the manuscript should be sent to the mailing list to be recorded in the archive of messages. These can then be read by all composing the manuscript.

The final manuscript must receive approval from the EC and PPC before being presented to the Collaboration for a vote of approval. Upon approval by a two-thirds vote of a quorum of the Collaboration, the manuscript will be submitted to the target Journal. If not approved by the Collaboration, the manuscript is not submitted to the journal; however, the authors may address the issues and repeat the process.

#### **11.4.4 Authorship on HPS Publications**

Authorship on Collaboration publications is extended to all eligible members. All HPS Collaboration members who were members at the time data leading to a publication were taken, and who have fulfilled the requirements of membership in the collaboration (including any shift requirements or other requirements), are eligible to be co-authors. Requests for corrections, additions or subtractions in the author list will be handled by the HPS executive committee. In case of disputes to these corrections, additions or subtractions, the HPS Collaboration will make the final decision on authorship based on a vote of present members at a meeting called for the purpose. The Executive Committee will maintain a database that shall be used to decide which members are eligible co-authors.