GENIE Collaboration Bylaws (v1.0)

GENIE Executive Board

Abstract

GENIE is a suite of software products, known as the *Generator*, the *Comparisons* and the *Tuning*, for the experimental neutrino physics community. The goal of the project is to develop a canonical neutrino interaction physics simulation whose validity extends to all nuclear targets and neutrino flavours from MeV to PeV energy scales. The GENIE Collaboration is an international collaboration of experimentalists and theorists with current membership from Europe, North America and Asia. At the time of drafting this document, GENIE is already the most commonly used neutrino interaction physics simulation, and it plays an important role in the world neutrino program and in the design of future facilities.

This document aims to formalize the mission of the GENIE Collaboration and provide a formal framework for its governance. All GENIE collaborators, and our users, recognise the importance of GENIE throughout the lifecycle of every experiment (from conception and design till the final publication) and, thus, agree to collaborate in a constructive manner, beyond the language of this document, for the ultimate success of the GENIE project so that it can serve the needs of the world neutrino programme.

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1. Amendments of the GENIE Collaboration Bylaws

The first version of this document was prepared by an ad-hoc committee consisting of the three original authors of the GENIE code and founding members of the GENIE Collaboration (Costas Andreopoulos, Hugh Gallagher, Steve Dytman), hereby referred to as the Primary Authors, and a Fermilab representative (Gabe Perdue), and it shall become official on November 12th, 2015. Any amendment to the Bylaws shall be discussed and voted in the newly-formed GENIE Executive Board.

2. Licensing and Intellectual Property Management

The GENIE Collaboration owns the GENIE trademark and rights to a suite of software products known as the *Generator*, the *Comparisons* and the *Tuning*.

The GENIE Generator source code was released under the GNU General Public Licence v3.0 (GPLv3)[1]. This license is irrevocable. The GENIE Collaboration is convinced of the benefits of making the Generator source code available for scientific use. The GPLv3 license gives users a considerable freedom. The GENIE Collaboration expects that freedom to be used wisely, so that it can continue providing the source code. The GPL doesn't address issues specific to academic software and we include an additional set of guidelines (MCNET guidelines[2]) we expect to be followed.

The source code for the GENIE Comparisons and the GENIE Tuning products is not publicly released and the GENIE Collaboration reserves all rights. Parts of the code included in the Comparisons and Tuning can be made available to experimental collaborations under special agreements that protect exclusivity rights of the GENIE Collaboration.

GENIE reserves the right to produce new software suites under appropriate licenses in the future. The licenses for software packages not enumerated here will be stored in the code repository for the product and in the GENIE policy documents collection.

The original GENIE source code was largely developed by Costas Andreopoulos while employed at Rutherford Appleton Laboratory operated by the UK Science and Technology Facilities Council (STFC). According to the Patents Act 1977[3] and the Copyright, Designs and Patents Act 1988[4], the intellectual property (IP) produced is owned by STFC. STFC is the primary GENIE stakeholder organisation the IP is managed by STFC Innovations Ltd. Contributions from US Collaborators were carried out under work supported by the US Department of Energy, which has a to-be-determined ownership stake in the IP rights of GENIE.

3. Mission Statement

1. The GENIE Collaboration shall provide a state-of-the-art neutrino MC generator for the world experimental neutrino community. GENIE shall simulate all processes for all neutrino species and nuclear targets, from MeV to PeV energy scales.
2. The GENIE Collaboration shall provide electron-nucleus, hadron-nucleus and nucleon decay generators in the same physics framework as the neutrino-nucleus generator.

[1] https://www.gnu.org/licenses/gpl-3.0.txt
[2] http://www.montecarlonet.org/GUIDELINES
[3] http://www.legislation.gov.uk/ukpga/1977/37/contents
[4] http://www.legislation.gov.uk/ukpga/1988/48/contents

3. The GENIE Collaboration shall review critically all relevant theoretical work and experimental data and it shall synthesize selected physics models and data into a comprehensive and self-consistent picture of neutrino interaction physics.
4. The GENIE Collaboration shall curate archives of the world neutrino scattering data, and a large sample of complementary charged lepton and hadron scattering data, and it shall make those archives available in digital form for the purpose of neutrino interaction model validation, tuning and systematic error evaluation.
5. The GENIE Collaboration shall perform global fits to neutrino, charged-lepton and hadron scattering data and provide global neutrino interaction model tunes.
6. The GENIE Collaboration shall provide a complete systematic analysis of its default model.
7. The GENIE Collaboration shall provide expert advice to the world neutrino community on matters related to neutrino interaction phenomenology based on in-depth knowledge of relevant scattering data and the experience building a comprehensive model of neutrino interaction physics. It shall also expert advice on all technical matters related to the realistic simulation of complex experimental environments.
8. The GENIE Collaboration shall provide tools to support the full life-cycle of simulation and generator-related analysis tasks, including a) a suite of neutrino flux and detector geometry navigation drivers which allow event generation for realistic, arbitrarily complex experimental setups using off-the-shelf components, b) standardised event generation applications for all major experiments, and c) event reweighting code allowing the propagation of generator-level uncertainties into physics analyses.

4. Governance

GENIE is a relatively small collaboration, and most of the key issues facing it, including content of upcoming releases, the release schedule, scheduling of meetings, and interactions with other software packages and community efforts, will be discussed by the entire collaboration. These discussions take place primarily through regularly scheduled phone meetings. However, specific management roles and/or decision-making authority reside in other bodies as described in this section. The overall structure of the GENIE Collaboration is outlined in Fig. 1.

4.1. Co-Spokespersons

Role

Two Co-Spokespersons shall be the primary GENIE contacts and shall represent the international GENIE Collaboration.

The Co-Spokespersons shall provide leadership of the international GENIE Collaboration and shall bear the ultimate authority and responsibility for day-to-day operations.

At a regional level, Co-Spokesperson responsibilities requiring intimate knowledge of the local funding landscape and mechanisms, may be shared with or delegated to regional Principal Investigators (PIs).

The Co-Spokespersons shall work closely with the Executive Board and bring all important issues to the Executive Board for final discussion and vote.

The Co-Spokespersons shall be responsible for the agenda of the GENIE Collaboration meetings and GENIE workshops.

The Co-Spokespersons shall be responsible for developing the Advisory Board (Sec. 5) Terms of Reference and for appointing its members.

The Co-Spokespersons shall handle requests by conference, workshop and school organizers for official GENIE talks, tutorials or contributions to generator comparison exercises.

Where normal decision-making processes lead to a deadlock, the longest-serving Spokesperson shall act as final arbiter to resolve issues that may arise.

Appointment

One of the two Co-Spokespersons is C. Andreopoulos (GENIE *Benevolent Dictator For Life*).

The second Co-Spokesperson shall be elected directly by the voting members of the collaboration using a first past the post system.

Term

The term of an elected Co-Spokesperson is 2 years.

Recall

An elected Co-Spokesperson may be recalled by a 'no confidence' vote supported by a 2/3 majority of the voting members of the entire collaboration.

4.2. Executive Board

Role

The governing body of the GENIE Collaboration is the Executive Board (EB), and it shall make all major decisions.

The members of the EB shall provide leadership and may represent the GENIE Collaboration to funding agencies and other official bodies.

The EB shall maintain and amend the GENIE Collaboration Bylaws.

The EB shall appoint a Chair who will be responsible for the organization and the agenda of EB meetings.

The EB shall appoint Technical, Working Group and Forum Coordinators.

Upon request, the EB shall appoint GENIE representatives to external bodies and collaborations.

The EB shall examine the proposals submitted by groups applying for membership, conduct the membership negotiations and vote on the approval of new memberships.

Upon successful completion of membership negotiations and acceptance of new groups into the collaboration, the EB shall have the oversight of these groups and shall be responsible for the preparation of annual reports comparing deliverables against all formally undertaken commitments.

The EB shall be responsible for developing a release roadmap, for authorizing new official production releases and for terminating official support of past production releases.

The EB shall make all executive decisions on the physics content of each production release, including the choice of released tunes and the selection of the default one.

The EB shall authorise the graduation of incubator projects (See. 7.2) and their integratation into publicly available GENIE products.

In communication with the Technical and Working Group Coordinators, the EB shall maintain a list of available service tasks and it shall keep track of the service task credits accumulated by each GENIE member.

The EB shall be responsible for the selection of speakers for the official GENIE talks invited in recognized conferences, workshops and symposia.

The EB shall be responsible for the organisation of GENIE tutorials and for for the official GENIE contributions in the context of recognised HEP schools. The EB shall also be responsible for all GENIE contributions to generator comparison exercises in the context of recognised conferences and workshops. These responsibilities shall be delegated to dedicated groups to be formed at a later stage.

Meetings of the EB shall require a simple majority of the members of the Board in order to make decisions official.

EB decisions require a 2/3 majority (rounded up) of the EB vote (excluding absences). Admitting new collaboration members is the only exception to the above and requires unanimous agreement.

Appointment

Initially, EB membership is restricted to the Primary Authors and a Fermilab representative.

Fermilab is granted membership on the EB because of the importance of GENIE to the laboratory's physics program and the very high degree of engagement between the laboratory and GENIE. Similarly, if other major HEP laboratories engage strongly with GENIE and adopt GENIE software as a core part of their software stacks, they will each be granted the right to appoint a representative to the EB.

Besides major HEP laboratory representatives, no additional appointments to the EB will be made if it exceeds a size of 10 members or 10% of the size of the GENIE Collaboration, whichever is lower.

If there are vacant EB positions then new at large members can be appointed. New members will be considered if the total collaboration population grows to be larger than ten times the number of EB members. These members are nominated by the collaboration, following a nomination solicitation by the Spokesperson, and appointed following a first past the post vote by existing EB members.

Term

No limit is imposed on the term of Primary Authors in the EB.

The term of representatives of major stakeholder organizations, such as national Laboratories, is 5 years and it is renewable.

The term of all other appointed members is 2 years and it is renewable.

The term of the EB Chair is 1 year and it is renewable.

5. Advisory Structure

5.1. Advisory Board

The GENIE Collaboration shall establish a permanent Advisory Board (AB), within a year of establishing its governance structure and publishing its bylaws.

The AB shall consist of leaders in the fields of HEP software, neutrino interaction phenomenology and neutrino experiment, and it shall aim to have all relevent communities represented.

The AB shall advise the Co-spokespersons on an biennial basis.

The AB shall make recommendations on the GENIE Collaboration structure, its effectiveness and its resource allocation. It shall also gather comments from the GENIE user community, review recent progress in GENIE, and make recommendations for future improvements.

The Co-spokespersons shall report the AB recommendations to the Executive Board, which shall consider these recommendation and develop an action plan. The action plan shall aim to address, to the degree that is possible given practical limitations, all actual or perceived shortcomings within the 2 year period till the next due AB report.

Futher specifics shall appear in the AB Terms of Reference document which shall be made publicly available on the GENIE web site in due time.

5.2. User Forum

The GENIE Collaboration shall also seek direct and frequent input from the community at grass roots level.

Besides setting-up user mailing lists and issue tracking systems, the GENIE Collaboration shall seek to strengthen its interactions with the neutrino community by organising a regular GENIE Users Forum.

The User Forum shall be managed by a Forum Coordinator appointed by the Executive Board with a renewable term of 2 years.

The Forum Coordinator shall be responsible for the organization and the agenda of the User Forum.

The Forum Coordinator shall report to the Executive Board and the Technical and Working Group Coordinators and facilitate the launch of incubator projects (see Sec.7) to bring the improvements demanded by the community.

On first instance, the GENIE Users Forum will be held in conjunction with the Fermilab Simulations for Neutrinos meeting.

6. Working Groups

All official GENIE work shall be carried out strictly within the GENIE Working Groups (WGs), under the leadership of the corresponding Coordinator and under the supervision of the EB.

To manage the interplay between the host of diverse development tasks that are needed to achieve the GENIE development objectives, and to ensure that all GENIE work is well-managed, not overly fragmented and in good alignment with the GENIE development strategy, as set by EB, four WGs with a broad mandate shall be setup:

- a *Technical Coordination Group (TCG)*,
- a *Primary Processes Working Group (PPWG)*,
- a *Nuclear Physics Working Group (NPWG)*, and
- a *Systematics & Tuning Working Group (STWG)*.

The TCG is led by the Technical Coordinator (TC) and the three physics WGs are lead by the corresponding Working Group Coordinator (WGC).

The Coordinator of each group is appointed by the EB with a term of 5 years that is renewable.

Wherever appropriate, specialized and well-defined sub-tasks shall be delegated further to ad-hoc Task Forces (TF) led by a Task Force Manager (TFM).

The mandate of each of the WG, as well as the appointed leaders and their term, is detailed below.

6.1. Technical Coordination

Mandate

The Technical Coordination Group (TCG) shall have the oversight and ultimate responsibility for all technical aspects of GENIE development and deployment.

The TCG shall work in close collaboration with all Working Groups to assure that the GENIE Collaboration delivers robust, fully validated and well-documented software.

The TCG shall be responsible for

- all aspects of testing and quality assurance,
- the build and configuration system,
- the core GENIE framework,
- the numerical algorithms,
- the experimental interfaces, including the flux and geometry navigation drivers and the event generation applications.

The TCG shall conduct regular GENIE code maintenance, including, but not limited to reviews, refactorizations, and technical updates.

6.2. Primary Processes

Mandate

The PPWG shall review critically the primary neutrino interaction modeling in GENIE and it shall evaluate the strengths and deficiencies of this model in view of modern theoretical work and experimental measurements.

The PPWG shall recommend modeling improvements and, in coordination with the TCG, it shall implement and fully deploy the improved models conforming to the GENIE framework requirements.

In coordination with the STWG, the PPWG shall a) validate the primary neutrino interaction model, b) study its systematics, c) develop and deploy the necessary event reweighting tools, and d) provide an initial tune.

All new experimental data required for the above-mentioned work shall be curated, and all work shall be thouroughly documented in the source code, in internal technical notes and in the GENIE User and Physics manual.

6.3. Nuclear Physics

Mandate

As for the PPWG, but focussing specifically on the modeling of initial and final state nuclear effects.

6.4. Systematics & Tuning

Mandate

The STWG shall recommend, implement and validate the global GENIE tuning strategies. In coordination with the PPWG and NPWG, it shall curate the GENIE data archives and have the ultimate responsibility for developing and maintaining all event reweighting, fitting and data/MC comparison tools.

The STWG shall produce the official global GENIE tunes and ensure that these tunes are thouroughly documented and correctly deployed in GENIE production versions. It shall quantify all generator-level uncertainties and ensure the availability of tools to propagate those uncertainties into physics analyses.

7. The Incubator

7.1. Scope

The *incubator* is where all actual work above a complexity threshold takes place. It consists of a series of *incubator projects*.

Incubator projects are in-house development activities or community development efforts led by the GENIE WG Coordinators and overseen by the GENIE Executive Board.

An incubator project is the *unique route* for any physics or software development into any of the GENIE suite products (Generator, Comparisons, Tuning).

Incubator projects may include, but not limited to,

- the development of a new physics model,
- the improvement of an existing model,
- a systematic study,
- the tuning of a physics component,
- the development of a new tool or the addition of a new feature to an existing tool,
- an upgrade of the framework,
- an improvement of numerical procedure, or
- a documentation improvement.

7.2. Incubator Project Phases

7.2.1. Phase 0 - Launch

The starting point is the identification of a GENIE need by a collaboration member or a community member at large. Following a consultation between all relevant WGCs and the TCs, one or more *incubator projects* may be launched to address the identified GENIE need.

Each incubator project shall have a fully defined and documented scope and milestones.

Each incubator project shall have fully defined and documented requirements, including software enginnering, validation and documentation ones, as appropriate.

A private development branch and an internal wiki shall be created for each project.

A clear reporting line shall be established for each incubator project. The WG or Technical Coordinator in the reporting line (or a delegate) is designated as *Incubation Manager* (IM) and leads the project to graduation.

The roles of a developer and IM are not incompatible and, on some instances, especially for smaller, in-house development projects, the IM may also be an active or the lead developer.

An incubator project may be launched even if the corresponding team of developers is not yet identified. Such projects, which may be important for the GENIE objectives but which the GENIE collaboration does not have the resources to tackle on a short timescale, shall be advertised in the User Forum to solicit community contributions.

7.2.2. Phase 1 - Research & Development

Regular updates in GENIE WG meetings, as well as an regularly updated wiki that allows one to trace the evolution of the project, are required.

Additional requirements may be added, as a result of the experience gained during this phase.

At the end of the development cycle, the developers of an incubator project may request the graduation of that project and its inclusion within the corresponding GENIE product.

7.2.3. Phase 2 - Graduation

Upon receiving a request for project graduation the IM shall verify that the project meets its agreed goals and, on this condition, launch a formal review.

Reviews shall take place during phone, video or face-to-face meetings.

The developers of the reviewed incubator project shall make all material to be reviewed available to the GENIE Collaboration at least a week prior to the review.

The reviewed material may include, as appropriate given the nature of each project:

1. Clean and well-documented code.
2. Validation programs, with sufficient documentation that they can be reproduced by the WG convener.
3. Archive of theorist communication (including code) and presentations on the topic.
4. A short (<10 page) document that (a) summarizes validation results, (b) presents a table summarizing code changes, (c) highlights important assumptions in the code and possibly, (d) makes suggestions for merging or tuning the model in the future, and (e) makes suggestions for systematic error assignment for the model.

Note that the above list is not exhaustive or definitive, but is meant to serve as a guide.

Any member of the GENIE Collaboration may sit in the review without invitation. At least one GENIE Collaboration member other than the developers and the IM is required to be present (or two members if the IM is also an active developer of that project).

The reviewers shall take into account the agreed scope and requirements. No incubator project shall be allowed to graduate unless it fully meets the agreed requirements.

The review shall give special emphasis, as appropriate, on

- Correctness and performance against previously agreed validation criteria.

- Robustness and use of sound software enginnering practices.
- Sufficient documentation in various forms.

The developers and IM shall address all concerns raised during the review. If major concerns are raised, a follow up review shall be organised by the IM.

Upon the succesful completion of the review, the IM requests from the EB to formally allow the project to graduate.

7.2.4. Phase 3 - Integration and deployment

Upon EB approval, and where appropriate, the IM merges the code into the trunk version of the corresponding GENIE product and repeats the validation procedure.

Work shall commence, if necessary, to bridge the gap between the requirements agreed with the project developers and the requirements for including the end result of a project within an official GENIE product release. This may include work on the efficiency or software engineering aspects of the code to satisfy requirements which may have not been included in the original project scope, upon consideration of the profile, constraints and abilities of the developers.

Normally, the necessary improvement work shall be undertaken by the IM. If the necessary work is judged to be of considerable complexity that warrants a more formal development procedure and collaboration scrutiny, *new incubator projects shall commence at this point with a new development team and IM.*

Upon completion of the above process and at the request of the EB, the improved work will be merged into a release candidate branch by the IM.

8. Membership

8.1. Admission Procedure

GENIE has a broad mission but also a sharp focus on delivering state-of-the-art and fully validated simulation software to the world experimental community. Membership of the GENIE collaboration implies a strong commitment to the GENIE vision and procedures and a long-term contribution to the core GENIE mission.

A group of scientists, from any number of institutions, led by a single Principal Investigator (PI) may apply for GENIE membership as follows:

- A proposal should be submitted to the GENIE Spokesperson. The proposal, which may not exceed 5 pages, should
  - introduce the group members and outline their relevant expertise and past accomplishments,
  - provide statements on the proposed physics contribution to GENIE,
  - provide statements on the proposed nature and level of GENIE service task activities,
  - provide estimates of effort spent on GENIE and all other commitments (research, teaching, administration), for all prospective members, and explain the sources of funding.
- The Spokesperson shall inform the EB, which shall consider the proposal within a period of 4 weeks. Clarifications and/or modification of the proposal may be requested from the EB, to bring it in better alignment with actual GENIE needs, vision and the overall development strategy.

- Once a finalised proposal is submitted, the EB shall consider the application again, within a period of 2 weeks, and make a final decision. *The EB will work with the incoming group to establish a mutually satisfactory term for accomplishing the proposed tasks. Terms can be established to ease the transition to long term collaboration.*

- Upon successful completion of the admission process, the new members are granted immediate membership rights.

New individuals at the post-doctoral scholar level and below joining already admitted groups and institutions may join GENIE pending a simple majority vote of the EB with no formal application required. New individuals at the junior faculty level and higher are expected to formally apply for membership.

8.2. Voting Rights

GENIE Collaborators are considered voting members of the collaboration if they hold a scientific appointment beyond the postdoctoral level at a participating institution.

8.3. Authorship Rights

GENIE Collaborators are considered authors on GENIE papers once they have been members of the collaboration for at least six months. GENIE Contributors and Collaborators who have been members for less than six months may still be invited to be authors on GENIE papers in cases where the Collaboration believes the individual made important contributions to the paper. In case of disputes, the Executive Board will arbitrate and settle the situation as needed.

8.4. Oversight

A review of the activities of collaborating institutes shall be undertaken annually by an ad-hoc group appointed by the EB.

Concerns regarding discrepancies between commitments and deliverables, or adherence to the GENIE operating principles and procedures, shall be communicated to the PI of the group whose contribution is reviewed.

It is expected that immediate corrective action shall be taken to address all concerns.

Major unresolved concerns trigger sanctions in the form of membership re-negotiation or, in the discretion of the EB, termination of GENIE membership, and of all authorship rights, with immediate effect.

What constitutes a major concern is unavoidably subjective and it is at the discretion of the EB to define it. However, the authors of this document wish to ensure that, sanctions are automatically enacted by the EB in response to:

- Publication of GENIE work (see Sec. 12.1 for a definition) without the prior agreement of the GENIE Collaboration.

- Distribution of GENIE code outside of the official distribution channels.

- *Actions that have large and negative impact on the basic mission of the GENIE collaboration.*

8.5. End Of Term

The term of membership of the GENIE Collaboration is specified in the proposal on the basis of which members were admitted.

GENIE membership renewal proceedings may start 4 months in advance of the end of term.

GENIE membership shall not be normally extended unless there is a firm established basis for continuing collaboration.

The membership renewal procedure is identical to the procedure for admitting new members.

At the end of the membership term, all GENIE-specific roles and access to GENIE computing resources are automatically revoked.

GENIE Collaboration members whose membership has come to an end become *Legacy Members*. Legacy Members retain authorship rights for 6 months for every 2-year period of membership, up to a maximum of 1.5 years.

9. Community Contributions

Naturally, a popular open-source project like GENIE, has a large number of contributors. It is not practical or desirable to grant GENIE Collaboration membership to all contributors, as membership requires a long-term commitment and work that includes a significant service task component.

Casual contributions could represent a considerable component of the overall GENIE development effort. This effort needs to be harnessed and aligned with the overall GENIE development objectives, and contributors need to be educated on the GENIE development procedures and standards.

The GENIE WG Coordinators may freely invite contributors in GENIE meetings and WG activities.

Access to non-publicly available elements of the GENIE project code repository may be granted to contributors.

The GENIE Collaboration owns the rights to all GENIE works (see Sec.12.1 for definition).

Contributors shall observe the same Publication Policy (see Sec.12) as full collaborators.

Under no circumstance shall a contributor distribute GENIE code and documentation outside the official GENIE distribution channels.

Contributors are not automatically included in the author list of GENIE publications. However, the GENIE Collaboration shall acknowledge these contributions as appropriate including, but not restricted to, inviting contributors in the author list of relevant GENIE publications.

10. Code Management

For a collaboration like GENIE that is closely associated with a software product, it is reasonable to enumerate some basic principles of code management here. In general, the particulars of code management will be detailed in position papers found in the official repository.

It should be generally understood that write permissions into the GENIE repository is by invitation only. Not all collaborators will have write permissions in every part of the repository and it is even feasible some collaborators will not need write permissions at all, although the expectation is collaborators will be able to write into every part of the repository necessary for conducting their work.

11. Service Tasks

The GENIE collaboration is responsible for a software product that is widely used by the high energy physics community. As such it must maintain high standards for software engineering quality, documentation, and user support. These tasks require a significant investment in time and member institutions will be asked to contribute to these and other tasks that support GENIE's mission.

The GENIE Executive Board shall establish a committee chaired by the Spokesperson or a designee and containing not less than three members that is responsible for reviewing each institution's plans for and implementation of their service support work. This "Service Works" committee shall consider the size and technical capabilities of each institution and seek to produce a service plan that group has the ability and resources to execute that is fair to all the other institutions in the collaboration.

The Service Works committee shall twice annually produce a written summary of the various service agreements between GENIE and all member institutions that shall be available to members of the collaboration for review.

12. Publication Policy

12.1. GENIE Work

GENIE work is defined as any investigation that leads to accepted commits into the official code repository and/or any work conducted under the auspices of one of the GENIE WGs.

12.2. GENIE Internal Work and the Public

It is generally understood that work conducted in a GENIE WG is internal information and not to be shared broadly until it is fully approved by the collaboration. In some cases developers will be permitted to show work-in-progress to colleagues outside of GENIE. Most GENIE Collaborators will likely be members of experiments and they may wish to show progress or use results of their work in GENIE, especially to justify continued cooperation with GENIE. Approval for this sort of information sharing requires verbal approval from the working group coordinator overseeing the work. In these cases, the Collaborator should carefully mark all plots and slides with strong language to identify the code as a "development version." In general, work in progress results of this nature may not be shown at international conferences or used in publications.

12.3. Approving New Results for Publication and Presentation

New results for publication and presentation need to pass a formal review and to be approved by the GENIE Collaboration.

It is expected that the supporting materials will already carry the approval of the WG under which the work was conducted and WG Coordinators have veto rights over any material proposed for publication which did not pass through their group for approval first. Generally speaking, the most appropriate of the PPWG or NPWG Coordinator is expected to have approved new results obtained using new GENIE models, and the STWG Coordinator is expected to have approved any new result that impacts on the comprehensive GENIE model and the GENIE tune.

New results may not be included in publications and presentations unless they are obtained using either:

- official production versions of GENIE products, or

- code that, although not yet in an official production version, comes from a graduated project[5].

Exceptionally a WG Coordinator may allow new results obtained from a project that is not yet graduated to be considered for *presentation only*. This shall be allowed only if the project has met all the agreed physics requirement, and where it is clear that any outstanding work towards project graduation does not impact the physics. However, such results may not be included in peer-reviewed publications or e-prints.

Reviews of new results shall take place during phone, video or face-to-face meetings.

The group seeking approval for new physics results shall make all material to be reviewed available to the GENIE Collaboration at least a week prior to the review.

The review shall be chaired by the relevant WG Coordinator or a a designee. Where more than one WG Coordinators are involved, the responsibility for chairing the review shall be shared. For new results from developments that do not fit in any of the above categories, the EB shall appoint an ad-hoc review chair.

Any member of the GENIE Collaboration may sit in the review without invitation.

The group seeking approval for new physics results shall address all comments, upon which the review chair shall declare the start of a final two-day period whereby the whole GENIE collaboration may comment further on the (potentialy revised) new results.

If no new comment is received within the two-day period, that is not addressed to the satisfaction of the review chair, the new result is declared to be an official GENIE result.

12.4. Paper committees

The Executive Board shall create a paper committee for each GENIE publication, consisting of not fewer than three collaboration members. Each committee shall have a chair chosen by the EB or, if the EB declines to appoint a chair, appointed by the committee members directly. It shall be the responsibility of the paper committee to review the publication with the level of scrutiny expected for a peer-reviewed journal. Papers that meet the satisfaction of the committee shall be presented to the collaboration as a whole for approval. Authors must make every reasonable attempt to fully satisfy the requirements of the collaboration. In cases of disputes over paper content, the first arbitrating body is the paper committee. If the paper committee cannot forge a consensus on the content of the paper, the final authority shall rest with the EB.

A. List of Current Appointments

Governance:

- Co-Spokespersons: Costas Andreopoulos (Liverpool/STFC-RAL), Steve Dytman (Pittsburgh)
- Executive Board: Costas Andreopoulos (Liverpool/STFC-RAL), Steve Dytman (Pittsburgh), Hugh Gallagher (Tufts), Gabe Perdue (Fermilab) (chair)

Working Group leadership:

[5]The mechanics of scientific project management within GENIE are discussed in detail in Sec. 7.

- Technical Coordinator: Robert Hatcher (Fermilab)
- Primary Processes Working Group Coordinator: Hugh Gallagher (Tufts)
- Nuclear Physics Working Group Coordinator: Steve Dytman (Pittsburgh)
- Systematics & Tuning Working Group Coordinator: Costas Andreopoulos (Liverpool/STFC-RAL)

Advisory structure and community relations:

- Forum Coordinator: Gabe Perdue (Fermilab)
- Advisory Board: *TBD*
- GENIE representative to the NuSTEC Board: Gabe Perdue (Fermilab)

B. Abbreviations

- AB: Advisory Board
- EB: Executive Board
- IM: Incubation Manager
- NPWG: Nuclear Physics Working Group
- PPWG: Primary Processes Working Group
- STWG: Systematics & Tuning Working Group
- TC: Technical Coordinator
- WG: Working Group
- WGC: Working Group Coordinator

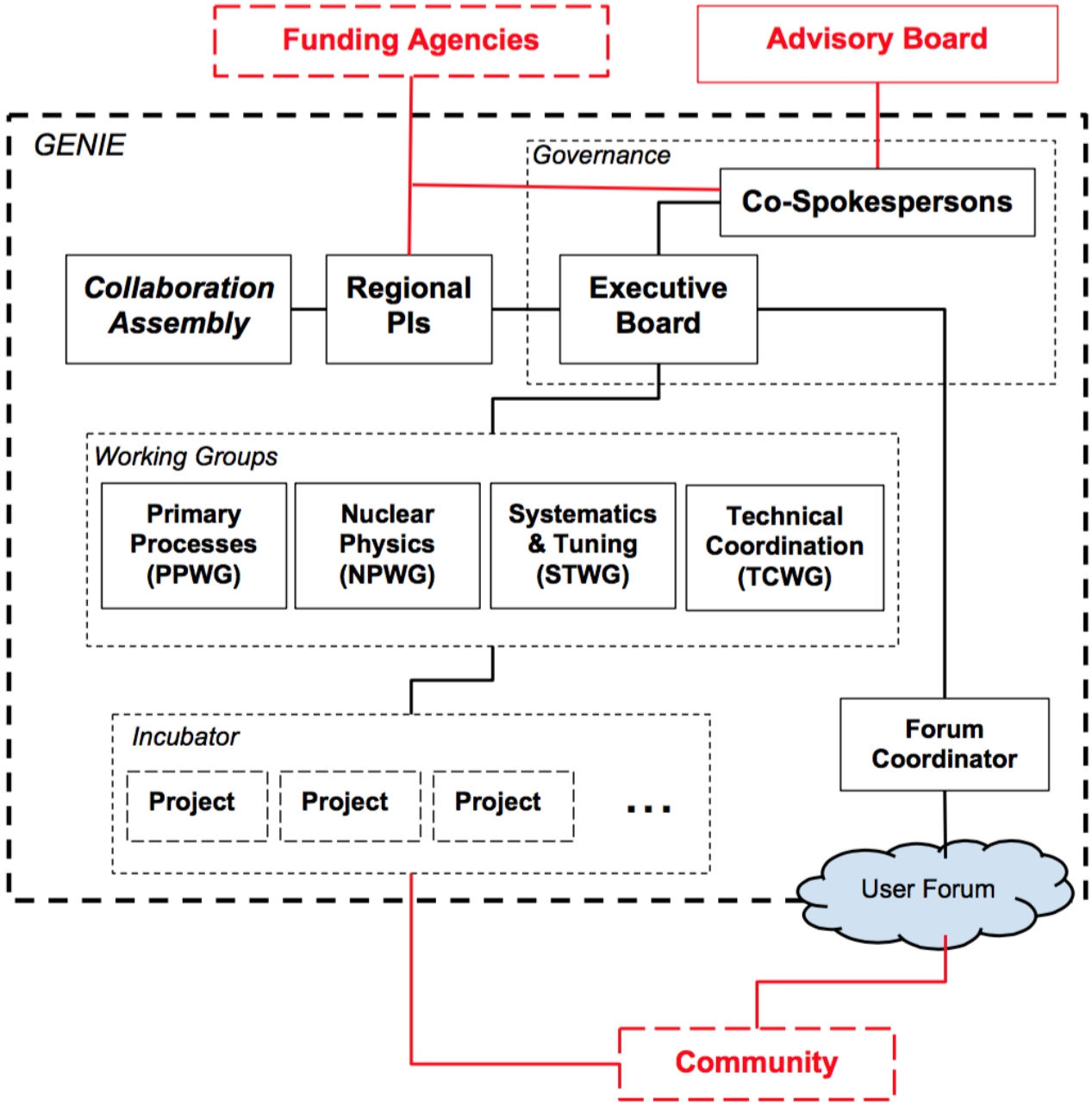

Figure 1: GENIE Collaboration organogram.