

Memorandum of Cooperation (MoC) Between the members of the FCAL collaboration

Introduction

FCAL is a worldwide detector Research & Development collaboration. Physicists from different Institutes (listed in Annex 1) join their effort to develop the technologies of special calorimeters in the very forward region of future detectors at an e+e- collider. These calorimeters must be compact, precisely positioned and read out very fast. Since the radiation load in the very forward region is large, sensors of unprecedented radiation hardness are needed.

FCAL collaborates with the Detector Concepts ILD and SiD of the International Linear Collider and the CLICdp collaboration.

The technology studies are already under way within the FCAL collaboration, since 2002, and FCAL continues to welcome new collaborators. The size of the collaboration, and the evolution of the linear collider projects in general, motivate a more structured organisation of FCAL.

The purpose of this Memorandum of Cooperation (MoC) is to provide a document describing the collaboration among the groups (hereafter called "the Partners"), and the organisational structure of the FCAL collaboration.

Article 1

Scope

- 1.1 This MoC defines the framework under which the Partners shall cooperate in the FCAL collaboration, and describes the organisational structure and decision mechanism of FCAL.
- 1.2 This MoC shall be complemented by Annexes, which shall form an integral part of this MoC.
- 1.3 Except as may be provided otherwise, each Partner shall bear its own costs for participation in the FCAL collaboration.

Article 2

The FCAL Collaboration

The FCAL Collaboration, in coordination with the worldwide Linear Collider organisation under the *International Committee for Future Accelerators* (“ICFA”), aims at:

- Hardware development for detector prototypes, their readout electronics and data acquisition, in part carried out within the Linear Collider R&D collaborations;
- Studies of the physics potential and prospects for precision measurements at the ILC and CLIC e⁺e⁻ colliders, including aspects related to beam polarisation;
- Detector simulation and optimisation studies; Software development for event generation, detector simulation, event reconstruction and analysis.

Article 3

Organisational structure and decision mechanism

The Organisational structure of the FCAL collaboration shall include the following entities:

1. The FCAL Institute Board (IB);
2. The FCAL Spokesperson
3. The FCAL Deputy-Spokesperson

The organisational structure of the FCAL collaboration resembles that of most HEP experiments. The Partners will be represented in the “FCAL Institute Board” (IB).

3.1 The FCAL Institute Board (IB)

- Comprises one member from each Partner participating in the FCAL collaboration;
- Meets at least twice per year;
- Defines the research direction of the collaboration, taking higher-level constraints and strategies into account;
- Shall elect its Chairperson;
- Shall elect the Spokesperson of the FCAL Collaboration;
- Approves the appointment of the Deputy-Spokesperson following the proposal

- by the Spokesperson;
- Defines the rules applicable in the execution of the collaboration, including in particular the rules for the election and renewal of appointments and the publication rules and internal procedures for public presentations and publications;
- Admits new Partners to the FCAL Collaboration;

3.2 The FCAL Spokesperson

- Manages the collaboration;
- Lounches working groups with specific responsibilities within FCAL;
- Communicates the FCAL results to the scientific community and to the general public, encourage their use, and monitor their proper citation;
- Encourage analyses and assure that they are completed and lead to high quality presentations and publications;
- Assure the communication within the FCAL Collaboration;
- Proposes the Deputy-Spokesperson.

3.3 The FCAL Deputy-Spokesperson

- Is proposed by the Spokesperson and approved by the IB;
- Assists in matters agreed between the Spokesperson and the Deputy.

Article 4

Responsibilities of the Partners

4.1 The Partners shall, on a best effort basis, contribute to the FCAL collaboration.

4.2 Any specific agreement on a contribution to FCAL by a Partner may be set out in an Annex to this MoC.

Article 5

Intellectual property

5.1 Proprietary information, including any information protected by trademark, patent or copyright, whether pre-existing or developed in the execution of this MoC, contributed to the FCAL collaboration by a Partner in the execution of this MoC, shall not create any right in respect of that information for the other Partners, other than a free, irrevocable and non-exclusive licence to use such information in so far as required for the execution of this MoC or in the scope of its scientific programme, for non-military purposes.

5.2 The Partners provide no warranties or representations of any kind to each other. They shall have no liability to each other with respect to the subject matter of this Article and each Partner shall be exclusively liable for the consequences of its use of proprietary information contributed to the FCAL collaboration.

Article 6

Publications and presentations

Publication rules and internal procedures for public presentations and publications require approval by the IB, and shall be set out in Annex 2 to this MoC.

Article 7

Liability

The Partners shall have no liability to each other in the execution of this MoC.

Article 8

New Partners

The FCAL Collaboration intends to welcome new Partners. The admission of any new Partner is subject to the formal approval by the IB.

Article 9

Entry into force and duration

9.1 This MoC enters into force upon signature by at least 6 Partners. It can be terminated by a common decision of all Partners.

9.2 Any Partner may withdraw from this MoC, upon a six-months-in-advance written notice to the IB.

Article 10

Dispute resolution

The Partners shall settle any difference concerning this MoC amicably. Where this is not possible, the Partners shall resort to arbitration in accordance with a procedure to be specified by the Partners. Notwithstanding reference of the dispute to arbitration, the Partners shall continue to perform their obligations under this MoC.

Annex 1: The Partners

(Status: 15th February 2015)

1. AGH University of Science & Technology (AGH-UST) / Faculty of Physics and Appl. Comp. Science / Cracow, Poland
2. European Organization for Nuclear Research (CERN) / Geneva, Switzerland
3. Deutsches Elektronen-Synchrotron (DESY) / Zeuthen, Germany
4. Horia Hulubei National Institute of Physics and Nuclear Engineering (IFIN-HH) / Bucharest, Romania
5. Henryk Niewodniczański Institute of Nuclear Physics (IFJ PAN) / Polish Academy of Sciences / Cracow, Poland
6. Institute for Space Sciences (ISS) / Bucharest-Magurele, Romania
7. Joint Institute of Nuclear Research (JINR) / Dubna, Russia
8. National Scientific and Educational Centre of Particle and High Energy Physics (NC PHEP) / Belarusian State University / Minsk, Belarus
9. Pontificia Universidad Catolica de Chile / Santiago, Chile
10. Tel Aviv University / Department of Particle Physics / Tel Aviv, Israel
11. Tohoku University / Department of Physics / Sendai, Japan
12. University of California / Santa Cruz, USA
13. VINCA Institute of Nuclear Sciences/ University of Belgrade / Belgrade, Serbia

List of all Partners. To be updated each time a new Partner has joined.

Annex 2: Organisational Structure – Internal Procedures

This Annex contains more detailed descriptions of the organisational structure and internal procedures, beyond those described in the text of the MoC.

A. Procedure to elect the chairperson of the Institute Board

- **Election procedure:** The chairperson of the Institute Board (IB) is elected by the IB members (one vote per partner, i.e. per MoC signed). For the election, the IB first has to select a polling officer: a simple majority of cast votes is sufficient for the election of the polling officer. The polling officer:

- o Solicits nominations from the IB members;
- o Discusses with the nominees to form a list of candidates;
- o Organizes the election in the IB, which normally will take place via email.

In the election, each partner has **one vote**. The chairperson of the IB is elected by **absolute majority of all partners** (i.e. not simply the absolute majority of the cast votes). If no candidate reaches an absolute majority, the polling officer discusses with the candidates with the aim of obtaining a reduced field of candidates for a second round of voting. In this second round, the IB chairperson is also elected by **absolute majority of all partners**. Should this not result in the election of a candidate, a third round is conducted with the two highest-ranked candidates of the previous round. In this final round, the IB chairperson is elected by **simple majority (50% of all cast votes)**.

- **IB chairperson term of office:** The term of office of the IB chairperson is **2 years**, after which a new election will take place.

Institute Board Meetings: Agenda and Minutes

The agenda of the IB meetings needs to be announced to the IB members well in advance. The agenda is initially protected, and will be made public once the meeting has been closed. Minutes of the IB meetings will be written and distributed to the IB members for comments. Minutes will be made public once they are approved by the IB.

B. Procedure to elect the FCAL Spokesperson

- **Election procedure:** The spokesperson of FCAL is elected by the Institute Board. For the election, the chair of the IB acts as a “polling officer”. The polling officer:

- o Solicits nominations from the IB members;
- o Discusses with the nominees to form a list of candidates;
- o Organizes the election in the IB, which normally will take place via email .

In the election, each partner has **one vote** (i.e. one vote per MoC signed). The spokesperson is elected by **absolute majority** of all partners. If no candidate reaches an absolute majority, the polling officer discusses with the candidates with the aim of obtaining a reduced field of candidates for a second round of voting. In this second round, the spokesperson is elected by **absolute majority** of all partners. Should this not result in the election of a candidate, a third round is conducted with the two highest-ranked candidates of the previous round, where the spokesperson is elected by **simple majority (50% of all cast votes)**.

- **Spokesperson term of office:** The term of office of the spokesperson is **2 years**, after which a new election will take place.

Annex 3: Procedures for conferences and publications

Publication and Speakers Committee

- The Publication and Speakers Committee (PS) is responsible for implementing policy with regards to all types of publication from the *FCAL Collaboration*, and for organizing conference presentations from members of the *FCAL Collaboration*:
- The PS consists of a Chair and three other members. The PS chair is proposed by the Spokesperson and approved by the IB;
- The other members of the publication committee are selected by the Spokesperson in consultation with the chair of the PS;
- Members of the PS normally serve for a period of two years;
- The PS is responsible for both the review procedure for papers/notes and for making sure that the internal documentation/webpages are maintained. Publications/Notes based on studies performed as part of one of

the broader LC detector R&D and detector concept collaborations will be reviewed and published by those collaborations.

- For plenary talks, the PS in consultation with the Spokesperson, proposes the name of the speaker, taking into account the nature of the meeting.
- The PS is responsible for maintaining a list of talks from the members of the *FCAL Collaboration*;
- For major LC workshops/conferences the PS should propose a list of possible contributions to optimise the visibility of the collaboration;
- Normally, slides should be made available for comments two days before the talk will be given;
- The PS is responsible for ensuring that the collaboration is aware of significant conferences where results from the FCAL Collaboration could be presented. The Chair, together with the Spokesperson, is responsible for lobbying for talks at major meetings;
- For major HEP conferences, it is the responsibility of the PS to submit abstracts on behalf of the *FCAL Collaboration*;
- In the case where a specific person has been asked to speak at a conference, they should inform the Chair of the PS. Normally, no further action is required.

Publication Rules

Four types of publication are covered, each with specific rules:

Collaboration-wide papers, journal papers such as reviews summarizing broad areas of physics, detector R&D or the design of the overall LC detector, for example, a synoptic paper on the Luminosity measurement at a LC;

Single/multiple author papers, journal papers based on a specific study, for example a paper summarizing the performance of particular components of a detector;

Notes which are not submitted to a journal but are publicly available;

Conference proceedings.

Publications will be assigned internal numbers of the form, FCAL-Note-yyyy-nn, FCAL-Pub-yyyy- nn and FCAL-Conf-yyyy-nn.

Theses (PhD and Master) that have been submitted and defended at the home university / institute of the student. These are not reviewed by the collaboration. They will be assigned numbers of the form FCAL-Thesis-yyyy-nn.

Journal Publications

During the initial stages of the FCAL Collaboration, it is envisaged that the majority of journal publications will fall into the category of single/multiple author papers rather than collaboration-wide publications (to maximize the credit given to those performing the work).

In all cases it is the responsibility of the PS to organize the review of the publication and for the formal sign-off. The publication procedure is as follows:

For all journal publications, there will be an open review process using the FCAL webpage;

Collaboration-wide publications will use *the FCAL Collaboration* author list;

The author list for other journal publications will be determined by the authors, but requires approval by the PS chair. In some cases the PS chair may recommend that additional contributions should be recognized or that the paper should use the full collaboration author list. Such papers should acknowledge *the FCAL Collaboration*. They should have a footnote on the front page with the following: "This study was performed within the framework of the FCAL collaboration";

Once the draft paper is placed on the FCAL webpage, it will be announced to the collaboration with a two week deadline for comments;

The PS will assign two reviewers for publications. The reviewers will place comments on the FCAL webpage within the review period;

After the two-week review period the authors will produce a final draft paper based on the comments received;

Where there are unresolved issues or disagreement, the PS chair will adjudicate;

It is the responsibility of the PS to ensure that the comments have been addressed and to formally approve the paper for submission to the journal;

Once approved, it is the responsibility of the authors to submit the paper to the journal and place it in the arXiv.

Conference Proceedings

The rules for conference proceedings are as follows:

Conference proceedings will be submitted under the name of the presenter and will include the words “on behalf of the *FCAL Collaboration*”. In some circumstances the presenter might wish to add one (or more) additional names as authors for a conference note;

It is the responsibility of the PS to post the draft on the FCAL webpage and to initiate a one-week review period;

At the end of the one-week review period, the author(s) should prepare the final document – no further iteration is necessary.

Notes

The rules for publicly visible notes are as follows:

Notes appear under the names of the author(s). There should be a footnote on the front page with the following: “*This study was performed within the framework of the FCAL collaboration*”;

It is the responsibility of the PS to post the draft in FCAL webpage and to initiate a two-week review period;

At the end of the two-week review period, the author(s) should prepare the final document.

Collaboration Author List

The PS will maintain the official collaboration author list and ensure that it is updated every six months.

On collaboration wide publications, authors will be listed alphabetically;

It is the responsibility of the IB representatives to provide a list of authors from their institute to the PS. Authors should have made some contribution to the *FCAL Collaboration* over the course of the preceding year;

It is the responsibility of the PS to ensure that the list is reasonable and to iterate with the IB representatives.

Annex 4: Signature form template

THE PARTNER

**Declares that he agrees with the content in the Memorandum
of Cooperation of the FCAL collaboration**

Done in PLACE Date

.....

For the PARTNER

.....

NAME

.....

FUNCTION

.....