



***Draft Minutes of the 89th Meeting of the ISOLDE Collaboration Committee
held on November 5th 2020***

Present: B. Blank (replacing G. Georgiev), J. Cederkall, K. Flanagan, L. Fraile, H. Fynbo, L. Gaffney, K. Johnston, D. Naidoo, A. Nannini, G. Neyens, J. Pakarinen, S. Pascu (replacing N. Marginean), M. Pfützner, J.A. Rodriguez, L. Schweikhard, N. Severijns, S. Siem, E. Siesling, M. Venhart, J. Voltaire

Absent: S. Gilardoni

The meeting, held via Zoom due to Covid-19 travel restrictions, starts at 09:00 h

1. Introductory remarks

The ISCC chairperson, K. Flanagan, opens the meeting.

2. Approval of the Minutes of the last meeting of June 23rd, 2020

The minutes from the previous meeting are approved.

3. Introduction to selection of new group leader – K. Flanagan

An overview of the election procedure is presented:

- February 2020: ISCC approved selection procedure.
- May 2020: ISOLDE Group Leader informed the EP department head about the ISCC decision to open a call for a new Group Leader and requested the start of the selection process. The present group leader is asked to prepare the call with the CERN HR department.
- June 2020: CERN published the Group Leader position with an application deadline of 30th September. Announcement sent to the ISOLDE mailing list, put on the NuPECC job site, published in the CERN Courier, etc...
- July 2020: The Search committee (ISCC Chair, ISOLDE Group Leader, INTC Chair) invited 5 (3 male and 2 female) possible candidates to apply; only one of these people submitted an application.
- September 30th 2020: Of the 15 applications received, only 8 were considered suitable by CERN HR.
- October 2020: Based on criteria set in the call, the Search committee selected 4 candidates to be invited to the ISCC meeting on November 5th.

Potential conflicts of interest by search committee members are declared:

- G. Neyens was the PhD supervisor of one of the selected candidates.
- K. Flanagan is from the same country as two of the candidates and is from the same institute as one of them.

The rules of the confidential voting scheme using the online platform “Balotilo” are detailed.

4. Interviews with the Group Leader candidates – M. Pfützner

The interview of each of the four invited candidates is made up of a 10-minute presentation by the candidate about themselves and their application for the ISOLDE Group Leader position followed by 20 minutes of questioning by the committee.

5. Selection of new group leader – M. Pfützner

Sean Freeman was selected by the committee to be the next ISOLDE Physics Group Leader.

6. News from the ISOLDE group and Collaboration matters – G. Neyens

The committee is informed that, in order for its contribution to the ISOLDE collaboration to be paid, France has to sign a special agreement and R. Pain (Director of IN2P3) signed such an agreement in August for the period 2020-2022. G. Neyens also tells the committee that the Czech Republic is preparing to become a full member of the ISOLDE Collaboration.

An overview of which member states have already paid their collaboration contributions for 2020 is presented. The 2020 fees from Belgium, Norway and Sweden are still outstanding as well as those from Spain for both 2019 and 2020. Poland was unable to pay 20.5kCHF of the 60kCHF collaboration fee for 2019 and still has 57.4kCHF outstanding for this year.

The committee approves the following updates to the ISOLDE MoU Annexes:

- The new Scientific Representative for the United Kingdom is L. Gaffney.
- The Norwegian Funding Agency representative is now the Dean of the University of Oslo

G. Neyens explains that she has been contacted by F. Farget, the Deputy Director of Nuclear Physics and Applications at IN2P3 which funds the French membership of the ISOLDE collaboration. IN2P3 have an issue with the non-IN2P3 scientists listed as French members in the annexes of the ISOLDE MoU. The committee states that this is an internal French issue and it is not necessary for the ISCC to be involved in this matter. F. Farget is also of the opinion that there is a need for a Financial review board, with members from funding agencies, to approve expenditure of collaboration funds. At present the ISCC is responsible for scientific policy and managing resources, as stated in the MoU. A detailed breakdown of expenditure is presented to the ISCC once a year during the Spring meeting, and all major expenditure is also discussed and approved by the committee. The CERN legal department and E. Elsen, the Director of Research and Computing have stated that the ISOLDE MoU is well drafted and transparent. E. Elsen has suggested some improvements could be made such as adding another expenditure category to maintain ISOLDE as a state-of-the-art facility. A discussion then takes place on this issue. No members of the committee see a need to add another management level especially as such a small level of funding is involved and the funding for more than half the member states does not come directly from funding agencies, but from universities. B. Blank states that the French user community is happy with the way ISOLDE is governed. F. Farget will, if she is still interested, be invited to attend the next ISCC meeting.

The committee is told that this year’s ISOLDE Workshop and Users meeting will take place fully online via Zoom on 26-27 November. The workshop will include the Lise Meitner Prize ceremony as a special event and will be preceded by the 2nd EPIC Workshop on 24-25 November. The focus of this year’s EPIC meeting will be on the scientific argument for more space at ISOLDE in the form of a new experimental hall and to present a feasibility study and possible location. It is planned to publish the physics potential and goals of EPIC presented at the two workshops as a Special Topics article in The European Physical Journal. The layout has already been discussed and document will be coordinated by several topic leaders.

The present manpower situation in the ISOLDE Physics Group is then summarised by G. Neyens.

- **Scientific Associates:** Robert Berger (5 months, postponed until spring 2021), Giacomo de Angelis (July – December 2020), Ismael Martel (6 months, October 2020 – March 2021). Deadline for new applications: 13th March 2021.
- **Corresponding Associate:** Deadline for new applications: 13th March 2021.
- **Staff Members:** Stephan Malbrunot-Ennenbauer (ERC MIRACLS) (February 2017 to January 2022), Karl Johnston (Physics Coordinator) (October 2015 to September 2022), Gerda Neyens (Physics Group Leader) (June 2017 to June 2021), Magdalena Kowalska (CERN staff member)(January 2020 -).
- **User:** Jenny Weterings (User Support) (2002-)
- **Research Fellows:** Maxime Mougeot – ISOLTRAP (Sept 19 – August 2021), Razvan Lica – IDS (June 2020 – May 2022), Liss Vasquez Rodriguez - COLLAPS (Oct. 2020 – Sept. 2022). Deadline for new applications: 1st March 2021.
- **Applied Fellows:** Dinko Atanasov – WISArD & Low Energy Experiments (April 2019 – March 2021), Markus Vilen – MR-ToF for ISOLDE and MIRACLS (October 2019 to September 2021), Bruno Olaizola – HIE-ISOLDE (September 2020 – August 2022). Deadline for new applications is the same as for Research Fellows, 1st March 2021.
- **Doctoral Students:** Jonas Kartheim (CERN via Gentner Doctoral Program) (November 2017 to October 2020), Varvara Lagaki (CERN-MIRACLS) (September 2017 to February 2021), Simon Lechner (CERN-MIRACLS) (September 2017 to February 2021), Jared Croese (CERN- EP-SME) (February 2018 to July 2021), Peter Plattner (CERN via Austrian Doctoral Program) (August 2018 to July 2021), Katarzyna Maria Dziubinska-Kuhn (CERN-ERC Betadrop) (October 2018 to August 2021), Karolina Kulesz (CERN-ERC Betadrop) (October 2018 to September 2021), Lukas Nies (CERN via Gentner Doctoral Program) (November 2019 to October 2022), Franziska Maier (CERN-MIRACLS via Gentner Doctoral Program) (February 2020 – January 2023), Michail Atanasakis (CRIS) (Sept. 2020 – Aug. 2023), Marcus Jankowski (CERN via Gentner Doctoral Program) (January 2021 to December 2023).

G. Neyens explains to the committee that, due to the two ERC grants at ISOLDE soon coming to an end, a decrease in the number of CERN PhD students is expected. There is also a similar number of PhD students from partner institutes stationed full time at ISOLDE and collaboration funds are sometimes used to support students so that they can afford to live in the local area. As far as possible this funding is spread between member countries.

7. Radioactive Beam Sources (RBS) activities – *J. Vollaire*

The committee is told that, since June, priority has been given to finalising LS2 work and preparation for the physics run in 2021. With respect to the present COVID-19 situation, on site activities are continuing whenever possible. Frontend 10 (FE10) was transported into building 179 before the spring lockdown where the remaining minor mechanical work and additional tests took place before it was moved into the target area at the end of July. Since installation of FE10 on the GPS took place, stable beam tests have been ongoing and the FE10 beam used for the commissioning of the low energy beam lines. However, there are still two interventions that have to be undertaken. The first is the installation of a cover between the Boris tube and the frontend and the second is the regulation of beam instrumentation movement. Also, a new gas system to replace the temporary one used at present to inject gas into the ISOLDE target has to be produced, tested and deployed. The mechanical assembly and connection at offline2 of the frontend for the HRS (FE11) was completed over the

summer and beam tests should be finished in the next few days. The frontend will then be transported to the target area and it is expected to be ready for beam tests in December.

J. Vollaire briefly presents the status of the new tape station and thanks R. Lica, D. Atanasov and IFIN-HH in Romania for their assistance with the integration of the detectors into the setup. There is now a clear path forward to have the tape station operational for the physics run next year. Once TS1 is ready and operational, the installation of TS2 as a hot spare connected to a beam line will be launched. The committee congratulates the technical team on the progress that has been made on the fast tape station.

The excellent progress made in the construction of the nano-laboratory, an EN department funded project, and the equipment procurement for new nano particle processes is presented. The new laboratory will offer more space and a modern infrastructure for production of UCx pills (including pills made from nano-material powders). It will also provide a storage area for radioactive material which will be particularly useful when routine dismantling of targets begins. The integration of the new facility, in particular the extension of the nuclear ventilation to include the new laboratory, is briefly presented. The committee is informed that 10 batches of uranium carbide have been produced and that five of them will already be introduced into target units in 2020 to compensate for the impact of the nuclear ventilation integration in 2021. During the summer the TISD team has also been performing nanoparticle and production process tests as well as target dismantling cold tests.

The committee is informed that the TISD team staffing is being ramped-up to support development and next year's run. The team now consists of:

- Staff: S. Rothe (contract extended by 3 years), T. Stora
- Fellows: M. Au, J. Ballof, S. Stegemann
- PhD Students: D. Leimbach plus one more position yet to be filled
- FTECs: Y. Gracia, E. Reis
- PJAS: M. Bissel (50%)
- User: R. Heinke

J. Vollaire tells the committee that approximately 500kCHF has been secured to undertake the ISOLDE Beam Dump Replacement Study (ISBDRS) which will consider the details (schedule and cost) of possible scenarios for the ISOLDE beam dumps exchange. The project has been launched and a Project Management Plan written to clearly define the project structure and deliverables. Any new beam dump system must be compliant with modern standards of operation and RP. This is also an opportunity to implement solutions to overcome some current limitations (space, accessibility, intensity, energy...). A.-P. Bernardes is the project leader and a fellow began working on the project in October.

J. Vollaire informs the committee that, since June, MEDICIS has had a very successful run using external sources.

Regarding other possible upgrades, J. Vollaire reports that a Swedish Research Council grant has been requested for an ISOLDE Instantaneous Beam Sharing scheme which is being considered as a shorter term upgrade to the facility with a possible implementation during an EYETS.

K. Flanagan thanks the technical teams for all their hard work this year especially in the exceptionally difficult circumstances that 2020 has brought.

8. Commissioning of the accelerator – *J.A. Rodriguez*

An overview of the work carried out on the low energy beam lines is presented. As well as the new frontends and fast tape station, a new beam gate system and beam instrumentation have been installed

for which beam commissioning is now ongoing. M. Lozano undertook a campaign to check quadrupole integrity and polarity during which no issues were found with were found shorts to ground or capacity measurements. However, polarity checks showed multiple issues which are now being addressed and a problem with the connector of a high-voltage cable in RC4 was identified. An electrode of a quadrupole in the injection triplet of the cooler/buncher was found not to be biased which may explain the poor transmission observed during the last couple of years before LS2; this issue has now been fixed. The status of the low energy beam commissioning is then summarised and the work still pending detailed.

J.A. Rodriguez then presents the status of LS2 work at the HIE-ISOLDE post accelerator. As well as the repair of CM4, a number of other tasks have already been completed. A new non-adiabatic electron gun with IrCe cathode has been designed, manufactured and installed at REX-EBIS, performance characterisation of which is ongoing. Consolidation of the beam instrumentation in the REX linac has taken place, new silicon detectors installed in XT02 and XT03 and new high-level control software developed.

The committee is shown results from some of the HIE-ISOLDE beam commissioning tests that have already taken place and told that work will continue on the remaining tests until warm up begins on December 3rd. One of the tests completed validated a simplified cavity phasing procedure that could lead to shorter set up times in the future.

J.A. Rodriguez thanks the hard work and effort of all the teams involved in this work and the committee congratulates everyone involved in reaching a point that should allow a safe start up next year and delivery of beam in June 2021.

9. News from the coordinator – K. Johnston

The committee is informed that, after the period that CERN was in safe mode from March 13th until May 18th, there was a gradual restart of research teams' on-site activities, with priority given to PhD students, and all groups were expected to be back at CERN by mid-September. However, with the recent increase of COVID-19 cases everyone was asked to telework at least 60% and that has now been increased to 100% wherever possible. Justification is required for any on site presence; all technical and commissioning is allowed to continue. The pandemic has meant that most of the plans for physics setups at ISOLDE in 2020 have been affected in some way or shelved completely. While there has been progress with the upgrade of the VITO magnet, ISOLTRAP realignment, rebuilding of the GLM/GHM area and the upgrade of WISaRD, plans have had to be delayed regarding the upgrade of the TAS vacuum system, insertion and upgrades of the ISS detector and SPECMAT tests. The rail system for the VITO superconducting magnet and the crane upgrade for WISaRD have both been supported with CERN consolidation funds. The removal of NICOLE has also been delayed and, hence, the installation of MIRACLS in its allotted position has not been possible.

K. Johnston then presents the status of the GLM/GHM consolidation. Shielding blocks and all equipment was removed in August and, after the floor was resealed, the new perimeter of the area was established, and the shielding blocks put in position. Equipment will be installed in the coming weeks, but the access system will not be put in place until 2021. The area will be classified as a limited stay area, but it is hoped that this will only be the case during beam time.

The committee is told that, after the removal of NICOLE had to be cancelled in March, instructions which will allow its removal with remote assistance from the NICOLE team were received in late September. However, space in the hall extension, currently occupied by equipment for the GLM/GHM area, will first have to be cleared before it can be used for the temporary storage of the NICOLE setup. As the knock-on effect of the delay in the removal of NICOLE is that it has not been possible to start the installation of MIRACLS as originally planned, a MIRACLS proof of principle (POP) setup will be installed at LA2. Plans are presented showing how the POP setup will be located

with a reduced HV cage, compared to that shown by S. Malbrunot at the previous ISCC meeting, allowing access to LA1 and LA2.

K. Johnston informs the committee that the start date for ISOLDE physics in 2021 is June 21st but the end date has not yet been fixed as the length of the 2021/2022 YETS is still to be determined. However, it will be necessary to keep services running to allow for what is hoped to be a substantial winter physics at ISOLDE. The situation will be reviewed in mid-March next year. Beam requests for 2021 will be sent out to all approved experiments towards the end of November with a return deadline in mid-January. This will allow enough time for target preparation; it is foreseen to re-use some of the targets from 2018. As it is expected that some form of travel restrictions will still be in place next year, local groups will have an even larger role to play than in previous years and remote access/control is being considered. With the present restrictions in place at CERN, running experiments will be even more challenging than usual.

Regarding safety training for Users, the committee is told that K. Johnston has been given permission to give the ISOLDE hands on courses until the end of 2020 as the usual trainer was not allowed to travel to CERN due to COVID-19 restrictions. How these courses will be run next year is yet to be clarified and the new electrical course being prepared for all EP staff / users that could replace the hands on version has been delayed due to the pandemic.

A brief overview of the outcome of recent INTC meetings is then given. The decisions made and shifts recommended for each proposal submitted is presented. Some of the LOIs that have been endorsed this year will need space to be identified for the setups which will be required in 2 or 3 years from now. The status report review that took place at the February INTC meeting produced a total of 485 shifts still to be scheduled. The two other INTC meetings in 2020 approved 245.5 and 285 respectively giving an overall total of 1015.5 shifts now to be scheduled at ISOLDE. These are well spread over the low energy physics setups and for HIE-ISOLDE, apart from quite a backlog at MINIBALL, the shifts are manageable. Finally, K. Johnston informs the committee that there has been an upgrade of the CERN committees' website which is used for INTC submission <https://committees.web.cern.ch/intc-submission> and that the INTC meeting in February 2021 will accept proposals for all types of physics at ISOLDE.

10. Follow-up on selected group leader– *K. Flanagan*

Firstly, K. Flanagan informs the committee that he is willing to resign as ISCC chairperson after the selection of the new ISOLDE Physics Group leader from the United Kingdom if this is what the committee considers appropriate. The committee suggests to discuss this matter at the next meeting.

The committee then discusses the selection process used when one of the two CERN staff positions at ISOLDE has to be filled (ISOLDE Physics group leader and ISOLDE Physics Coordinator). The CERN HR department is consulted at every stage of the recruitment and the person selected by the committee is invited to attend a CERN HR board for perspective candidates. However, the whole process seems to be a hybrid between election by member states and normal HR hiring procedure and laws, in particular regarding data protection, have evolved since the procedure was put in place. The committee agrees that any recruitment process must be transparent and impartial. Committee members are asked to draft new proposals for the selection procedure and send them to G. Neyens and K. Flanagan before the next meeting.

11. A.O.B

- In order to maintain momentum of the EPIC initiative, J.A. Rodriguez requests the funding of a CERN fellow to work on the project next year. The approximate cost would be 100kCHF for each year. The collaboration has the funds available, but the exact profile required for the fellow would have to be defined before a suitable candidate can be found.

11. Dates of the next meeting

The first ISCC meeting in 2021 will take place on Monday 1st February.

Meeting ends at 16:50.

N.B. The overheads of the above presentations can be found via <https://indico.cern.ch/event/966046/> .