

# **Report of the KEK/J-PARC**

## **Muon Advisory Committee (MAC)**

**MAC-2025**

**January 2026**

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## Executive Summary

The Muon Advisory Committee (MAC) met on January 26 and January 27, 2026, in the KEK Tokai #1 Building to review the progress and prospects since the last MAC meeting in February 2025. All presentations were provided prior to or during the meeting on the Indico website (<https://kds.kek.jp/event/57889/>), which is important for documentation and for MAC's efficient discussions in the Executive Sessions and the writing of this review report. The MAC thanks the MUSE staff for their considerable efforts in preparing the material and the efficient running of the meeting, including a tour of the facility.

The MAC particularly appreciated the overview talk on J-PARC by the director, Prof. Takashi Kobayashi, and the two presentations on the MLF overview and the MLF Roadmap by the head of the Materials and Life Science Division, Prof. Toshiya Otomo, so that the strategy for the operation and further development of J-PARC was clearly laid out. The MAC was charged with evaluating the progress in FY2025 and the scenario for prospects for the MLF that was presented, see Appendix I.

The MAC appreciated the balanced presentation and discussion times, which allowed for some more in-depth discussions. While the last year was strongly affected by beam time losses due to various failures of the neutron target systems, very impressive progress has been made on the MUSE facility and its science output, with last year reaching a record high. The MAC congratulates all involved personnel and external contributors.

The ambitious plans include maximizing the performance of the existing facilities around target station 1 (TS1) and realizing new facilities at a new second target station (TS2) to unlock further potential. The path forward has been laid out in steps with 'MLF2030' optimizing the current performance, 'MLFDouble' to maximize the use of TS-1 and, finally, the construction and operation of TS-2. The TS-2 plans are of great interest also in view of an intense muon source, which will crucially depend on a repetition rate as high as possible. MAC strongly supports the vision for future MLF upgrades and emphasizes the need for a sustainable maintenance budget including replacement of ageing equipment, and additional resources to develop the future upgrades.

Equally important is to refill positions at the facility that are vacated upon retirement or due to the promotion of capable seniors to managerial positions. This situation offers opportunities to engage the next generation of researchers in tenure-track or tenured positions, especially given MLF upgrade plans.

The main parts I – III of this report collect important content from the respective review presentations, but are not meant to be comprehensive summaries. These are available at the Indico site mentioned above. We provide only an excerpt of the items that MAC found most relevant for this review.

## **I Facility Overview**

### **J-PARC Overview**

The J-PARC overview presentation was given by the director, Prof. Takeshi Kobayashi. MAC highly appreciated the open discussion of issues and successes.

We briefly list the most important items and MAC observations:

#### Issues/Mitigations:

- In FY2024/25, two system failures of the Hg target #16 caused major problems and loss of beamtime. A target (#12) of older design will now be operated for 2 years, at a reduced power of 700kW. Stable running appears possible, and it is the goal to deliver the originally planned 141 days of beam in the present beam period.
- An international target review panel, perhaps extended to a standing Target Advisory Committee (TAC), will be called to look at the target problems
- The neutrino target (main ring) also had a problem with its respective cooling system causing beam interruptions
- Due to multiple planned power outages for large-scale substation maintenance in January 2027, no J-PARC accelerator operations are scheduled for that month

#### Successes:

- J-PARC muon science is very successful with the K program projects
- For HyperK, the near detectors are in place and operating, the intermediate water Cherenkov detector (IWCD) construction (2025-28) was started, and the construction of the far detector at Kamioka is going well (aiming at physics data taking 2028)
- The new Research building adjacent to the MLF and J-PARC center buildings is ready to use (exterior construction completed in 2025, interior usage started in April 2025)
- The J-PARC access road will be built until 2028, FY25-FY27 construction budget secured (supplementary budget 2025 approved)
- J-PARC budget for JFY2026 is slightly increased, effectively bringing it back to ‘flat’, allowing for 6.8 cycles (instead of 7.2)
- The FY2026 budget for ageing counter-measures appears to be reduced compared to FY2025

### MAC findings and recommendations:

- The MAC welcomes the decision to prioritize stable operation at 700 kW for the coming two years over operation aiming at 1 MW.
- The MAC supports the plan to install a standing TAC, potentially including all J-PARC proton beam targets.
- The major identified issue concerns organizing and guaranteeing safe & stable long-term operation of the facility. Although not directly related to the target failures, there is a clear need to systematically renew ageing items before they cause major downtimes. This will become increasingly more important after 10+ years of operation. MAC recommends making this a top priority for all J-PARC management.
- MAC stresses the importance of having a prioritized advanced replacement plan worked out and in place with sufficient resources to fulfil it. In this light, MAC views a reduction of the budget for ‘ageing counter-measures’ as particularly critical.
- On the very positive side, MAC congratulates J-PARC on its extremely skilled and motivated workforce in the muon section and beyond. Even under the difficult conditions without beam very impressive progress has been achieved in facility development.

### **MLF Overview/Charges to MAC**

Prof. Otomo presented an overview of the MLF and the charges to the MAC as given in the appendix to this report.

The MAC learned about some changes in the membership of the MLF management team. The MAC congratulates the new members of the management on their new roles. The fact that they have considerable operational experience with the MLF and MUSE facilities is very encouraging. The MAC emphasizes the need to refill the evacuated positions with promising younger scientists when experienced scientists are promoted. This is very important in view of the workload of operating the current infrastructure and indispensable for any future upgrade plan.

Some more details were presented on the neutron target issues, the target replacement and the limitation in beam power. The MAC commented in the last paragraph.

The MAC congratulates the steady increase in scientific output, as evidenced by a rising rate of peer-reviewed publications.

The MAC highly values the continuous efforts to strengthen cooperation with universities. The MoU with Hitotsubashi University on data science is an excellent example.

A MLF Road map workshop was held, developing and disseminating the plan of maximizing the use of TS-1 to be followed by the construction of TS-2. This topic was discussed in more detail in later presentations.

## **Present Status of Muon Science Laboratory**

Prof. Koda presented a comprehensive report covering the personnel structure of IMSS Muon Science Laboratory (MSL), the MUSE beamlines and management organization, and the status of inter-university research programs.

Regarding the organizational structure, several personnel changes have occurred following the retirement of Prof. Shimomura from his role as Head of MSL. While some staff members received promotions, the number of permanent staff remained unchanged. As a result, MAC considered the on-site workforce to be effectively decreased.

In response to this situation, the MAC recommends that KEK and/or J-PARC actively appoint promising early-career researchers who can contribute to the long-term future of the facility whenever they promote capable personnel to leading positions in the facility management.

The inter-university research program continues to progress steadily. Research output has also shown a steady upward trend, with the number of journal publications continuing to increase. In particular, the number of peer-reviewed journal papers published in FY2025 reached a record high.

With respect to outreach activities, ongoing efforts, exemplified by the “Accelerator Kitchen” program and neutron muon school, have been well recognized. These activities are expected to contribute to attracting future users, further strengthening and future development of the facility.

Continued enhancement of outreach initiatives is strongly encouraged.

## **Facility (MUSE) Overview**

**Target:** For the muon source, the analysis of the known problems has progressed, showing that the target itself is sound, while the beam monitor is damaged. The roadmap for dealing with target storage and disposal was explained.

At the **D-line**, the small gas leak in the refrigerator for the solenoid magnet has been fixed, and it is now working well.

Many research activities are ongoing, in particular, interdisciplinary research in muon science and the humanities is promoted.

The dedicated review system for interdisciplinary proposals has started. A room for heritage science has been prepared in the new research building.

For the **S-line**, due to a high-voltage supplier malfunction on the kicker magnet, all Si-MOSFETs have been replaced with SiC-MOSFETs. No failure events occurred since then.

At the S2 beamline, the precise measurement of muon mass by the 1S-2S laser spectroscopy of muonium has been performed. The expected accuracy is 80 ppb, which will update the current CODATA value and uncertainty of 120 ppb.

Using the laser system developed by the Okayama University group, muon acceleration has been successfully demonstrated and will be used for initial acceleration in the H2 area. In the S3 beam line, the design work is ongoing. The first beam is expected by the end of FY 2026.

At the **U-line**, a new laser system was introduced to efficiently produce the ultra-slow muons (USMs). Real  $\mu$ SR experiments using USM will be pursued soon. A multilayer depth-scan with  $\mu$ SR was performed for the first time, and the data were presented. The results are being studied and compared to simulation and known beam properties (U1A). The demonstration of USM cyclotron-acceleration in preparation for a prototype of a transmission muon microscope is being prepared for the coming beam period. The cyclotron is in place and tested without muons as much as possible (U1B).

**H-line** is now in the harvest stage. The MuSEUM experiment obtained the first result on the muonium hyperfine splitting in a high field. High-precision measurements of muonic X-rays using the TES detector continued to reveal details of muonic-atom formation (H1). The first surface muon beam has been successfully delivered to the H2 area with an intensity of  $4 \times 10^7$  /s at a 780 kW proton beam. This muon intensity is about half the expected value. A first USM signal has also already been observed.

The plans for the H-line extension had to be changed due to budgetary constraints. An updated two-phase plan for the construction of the H-line experimental building, aimed at reducing costs, was presented.

The MAC was impressed by the many competitive funds that were granted for projects associated with all four (D, H, S and U) beamlines.

## II MUSE Facility Activity

### Muon Source (Target and proton beam tunnel)

Dr. Matoba and Mr. Sunagawa reported three main items on the rotating muon target.

**Operational status:** the current muon target, which was installed around 2020, remains operational after ~5 years of operation (most of the time ~700 MW or less) without downtime.

**Issues with 1 MW operation:** Two issues were discovered when the beam power was increased to 1 MW:

- (i) Bearing damage due to spline nut wear and thermal expansion of the rotating shaft.
- (ii) Thermal damage to the beam profile monitor.

Excellent work has been done to identify the cause of the problems, including the direct imaging of the profile monitor with a camera. While these issues do not appear to affect the current operation or lifetime (another 5 years), the new target (ready in 2029) will incorporate the remedies for the problems to allow steady operation at 1 MW.

**Long-term storage plan:** Based on the analysis of the previous targets, a strategy has been presented for a plan for long-term storage over the next 50 years. The team does not foresee technical issues, but the plan will require a budget.

### D-line and instruments/experiments

Dr. Takeshita and Dr. Umegaki presented the status of the D-line.

**Technical issues:** The refrigerator repair was presented in detail. The team should be congratulated on such a complicated repair. The system appears to be operating correctly. The electrical noise on the vacuum monitoring system is under investigation, and work is underway to resolve the issues. It should be noted that the 0% loss due to beamline issues is particularly impressive.

There are several excellent development projects:

**Pressure cell development:** There are now two pressure cells capable of reaching 1.1 and 1.5 GPa, developed by Dr. Higemoto's group at JAEA. This is impressive and is the highest pressure available at a pulsed source. However, these cells are not available for general use; they are only accessible to the development group. A plan for integration into a user program would be beneficial.

**Positron tracking** for 2D imaging is very impressive and shows significant promise. In particular, for reducing the background from standard samples and from pressure cells. In addition, it offers 3D- $\mu$ SR and when combined with muon tracking into the sample, it might allow for improved time resolution. This should be a priority for developing the D1 instrument and has similar benefits for the S-line instruments.

**Cultural heritage science.** The addition of a new subcommittee for cultural heritage and the restructuring of the application process (Japanese language) are welcomed, as it potentially reduces barriers. It was also reported that the most significant barrier to the cultural heritage science program is transporting the valuable objects to J-PARC, and scheduling this depends on stable J-PARC operations. The issues with the neutron target have caused significant problems and the cancellation of experiments. To further develop cultural heritage science, perhaps a review with museums and heritage scientists is needed to understand these barriers. The balance between days awarded to cultural heritage and other natural sciences is currently limited to 15% for cultural heritage, and should be reviewed regularly. The addition of a KEK storage and off-line analysis area is welcomed. The support and operation of the new equipment have not yet been determined.

**External Collaborations:** Meetings on heritage science have been held to explore greater collaboration and synergies with other techniques. The increased collaboration with ISIS on muonic X-rays is welcomed and should be supported and encouraged.

## **S-line and $\mu$ SR instruments/experiments**

Dr. Nakamura, Prof. Strasser and Dr. Nishimura presented the status of the S-line instruments and experiments.

**Personnel:** MAC congratulates the stable operations of S1 and S2 with the same local contact groups over four years. Support from early career researchers (ECRs) within KEK was available but limited by their project duties and/or fixed-term appointment.

Due to the promotion of personnel to the upper management, the S-line contact has changed. Further changes are expected, and the ground-level workload must be managed.

**Hardware:** The faulty Si-MOSFETs in S-line electrostatic kickers were all replaced with SiC-MOSFETs, and fault rates reduced to zero at present. Improvements to the helium recycling system (new switches, valves, and an alarm on DAQ) were implemented.

**Operation and Outcome:** Short-term experiments at S1 (those shorter than 2 days) use more than half of the beamtime and require frequent turnovers between experiments. Participation in the outreach activities (KEK Summer Challenge, Kasoku (Accelerator)-Kitchen and Neutron Muon School) are acknowledged. The number of publications from S1 doubled in 2024 compared to the 2018-2020 average. The S2 area is operated under the S-type proposal of Okayama University on the measurement of the 1s-2s transition of muonium. The muon acceleration team has published the first result in PRL, on the cover, as an editor's suggestion and featured in Physics.

**Future planning:** The S3 area is newly funded and being developed under an S-type proposal of Scientific Research on Ion Battery Materials. The beamline design is complete, aiming for an ambitious 1% momentum bite for investigations of 80  $\mu\text{m}$  thick cells inside 630  $\mu\text{m}$  thick aluminium jackets. The Cyclops (5T magnet) may have S4 as its more permanent location (S4 will need to be magnetically shielded). The pulse sequences for S1-3 are still open questions and depend in the longer term on the TS-2 implementation scenario. The purchase of a recommended DR for the S-lines depends on budget availability.

#### **MAC recommendations for the D-lines and S-lines:**

- MAC congratulates on the stable operations at D1, D2, S1 and S2 and encourages its continuation.
- MAC congratulates the successful technical developments (pressure cell and positron-tracking detection) and further encourages those new techniques to be available for future user program experiments.
- Ageing of S1 (and D1)  $\mu\text{SR}$  spectrometers (detectors, electronics, cryostats and magnets) must be monitored.
- The new S3  $\mu\text{SR}$ -spectrometer provides opportunities for synergies with replacing components of S1 (and D1) spectrometers.
- The MAC suggests investigating the use of aging facility maintenance budget in view of the aging DR at the D-line.
- The MAC suggests a review with museums/heritage scientists is needed to understand these barriers

#### **U-line and instruments/experiments**

Dr. Kanda, Prof. Oishi and Prof. Nagatani presented the status of the U1A ultraslow muon (USM) and U1B muon microscope, including the laser upgrades.

**U1A:** The spectrometer has observed 230 USM/sec in the laser dissociation scheme with the spatial size of FWHM 4mm, pulse width of 2ns (1 sigma) and asymmetry of 0.1. MAC congratulates this achievement in 2025. Further increases to 1000 USM/sec are planned to be demonstrated this year (Lyman-alpha laser upgraded to stable 26  $\mu$ J (world record)). Further upgrade to 100  $\mu$ J is planned, as well as further optimization of the Mu emitter (hot Tungsten vs Silica aerogel).

The trial implementation of the PSI-style cryogas moderator method will enable a direct comparison between the two generation schemes and is strongly encouraged.

MAC is glad to hear about the real application to thin-film samples (Cuprate and Pt/SiO<sub>2</sub>/Pt). The first data exhibit discrepancies between expectations and measurements, which need to be understood.

**U1B:** The muon cyclotron remains ready for beam tests. A new beam monitor was installed in the cyclotron vault and is ready for use. Cryogenic object lenses and beam-cooling stages are being developed.

Personnel: involvement of external university students and early career researchers has been achieved.

#### **MAC recommendations about U-lines:**

- U1A and U1B microscopes are progressing. MAC looks forward to the demonstration of 1000 USM/sec (U1A) and the first extraction of the cyclotron-accelerated muon beam (U1B) this year.
- Starting the expert user program with USM on U1A should be pursued at high priority.

#### **H-line and instruments/experiments**

Dr. Yamazaki reported on the progress of H-lines. MAC congratulates the steady progress in the facility. The commissioning of H2 with surface muons was performed on Apr. 25, 2025. Beamline slits, HLS1, were installed by Chubu University, 10mm thick SUS304. The slit control is integrated into the H-line control system. The second slit system, HSL2, will be installed in Mar 2026.

The USM production system based on a laser Lyman-alpha source has been constructed and the production of 0.15 USM /s has already observed.

MAC acknowledges the revision to the new H-line extension building plan with a narrower layout and one story rather than two to reduce floor load and costs. It also foresees bending the muon beam back by 180 degrees for the muon microscope. MAC supports the program, including a later extension of the building; however, any first step still needs additional funding. MAC recommends allocating resources to resolve the situation and get the project underway.

Scientific achievements and plans are recognized. Among them were:

- A 6-day experiment at 800 kW under a high magnetic field in H1 that achieved 300 MHz precision for the ground-state hyperfine-splitting of muonium in the MuSEUM project.
- Final calibration work of the DeeMe experiment by a Ph.D. student and conclusion of the project.
- Use of a TES detector system with an extended photon energy range up to 150 keV, which is promising for High-field QED (partially carried out), studies of metastable muon molecules for  $\mu\text{CF}$  (submitted for publication), measurements of nuclear radii, and elemental analyses (partially carried out).
- The new positive and negative muon trap project is interesting and should be promoted.

### **III Future facility development**

#### **MLF Roadmap**

J-PARC has almost realized its expected performance, thereby achieving a significant milestone. The IAC ranked it among the world's best in terms of hardware.

Prof. Otomo presented an overview of the J-PARC MLF roadmap, split into 3 components.

‘MLF2030’ understanding where J-PARC is now and optimizing performance, ‘MLF double’ aiming at upgrading instruments (e.g. neutron guides) to improve performance. This should also include the muon instruments (e.g. detector electronics), which are strongly supported by the MAC.

TS-2: The new TS-2 target station is strongly supported by the MAC; however, the repetition rate needs to be confirmed to fully understand its potential. For the muon community, it should be as high as possible given the muon’s very short lifetime compared to the time between proton beam extraction.

There is a general concern at J-PARC about the fraction of domestic users, which currently is about 50%. In view of the TS-2 plans, the Japanese user base should increase in absolute numbers.

Establishing an advancement office is a good idea, and the MAC suggests an outreach program for staff scientists to give seminars at universities that do not use J-PARC. The JPS meeting should also offer a good opportunity for further outreach.

## **TS-2 Facility Design**

Dr. Yamazaki and Prof. Kawamura presented. Ambitious plans were reported, ultimately aiming for  $10^{10}$  mu/sec.

**Target Station-1:** TS-1 upgrade, as planned in the muon part of the MLF double initiative, will enable simultaneous operation in S1-4. Also, it will allow the completion of the H-line.

**Target Station-2:** A concept for a muon source at Target Station-2 was reported. The beamline concept includes a large acceptance capture solenoid that will look directly at the spallation target and is likely to be the last proton beam element. An idea was presented to simultaneously extract positive and negative muons in opposite directions via a suitable bending magnet. The muon yield will benefit from the high-Z spallation target, especially for negative muons.

**Secondary beamline:** Conceptual design has begun, with an intermediate milestone of presenting the first design at a workshop in March 2026. The MAC is pleased to see the mid-career researchers involved in the design of these future beamlines.

**R&D for TS-2:** The capture solenoid is a formidable challenge due to high heat load and radiation. High Tc superconductor-based magnets are being considered. We recommend strengthening the collaboration with expert groups and preparing backup options for the magnet choice. Also, there will be detector challenges due to high instantaneous intensities; one should define the detector requirements and make optimal use of existing efforts (e.g. tracking detector in the D-line). The possibility of collaborating with other national and international labs should be explored.

## **Roadmap workshop**

Dr. Takeshita reported on the 1st MLF Roadmap workshop. It was held on 26 August 2025 in Tokyo. The number of participants was around 200. This workshop aimed to initiate the discussion of plans for the MLF together with users and to solidify the approach.

The facility side introduced the design performance of the Second Target Station (TS-2). Users proposed research achievable with TS-2. Topics related to muon science spanned a broad range

of fields, including material science, radical chemistry, muon-catalyzed fusion, and atomic physics.

The final panel discussion comprised two parts: In Part 1, young and mid-career researchers from both the facility and user sides served as panelists and exchanged opinions. In Part 2, representatives from relevant academic societies served as panelists, discussing perspectives on strengthening collaboration between the facility and users and on strategies for human resource development.

Recognizing the need for continued exchange, approximately four workshops are planned over the next two years. The 2nd workshop is scheduled for March 2026. Prof. Takeshita also mentioned the proton-sharing plans between TS-1 and TS-2, and the plan for the next workshop.

- MAC stresses the need for a high repetition rate for an efficient muon source on TS-2.
- MAC emphasizes the importance of this workshop series.

## **IV General Comments and Summary of Recommendations**

The MAC acknowledges the outstanding work of the Muon Science Laboratory and MUSE team in developing the facility, running the experimental program, and the scientific results.

The MAC acknowledges great progress with the muon target diagnostics and plans, with essentially all secondary beamlines and instruments from the consolidation of the D-line refrigerator, and the resolution of the S-line kicker problems, through the commissioning work with the U-line USM and the H-line surface muon beam to H2 and first physics experiments in H1.

The MAC congratulates the whole team on its achievements over the last year, which have been extremely difficult due to very limited beam operation, but at the same time highly productive in terms of facility consolidation and development, as well as in science.

The scientific output in materials science and heritage research continued to increase to a very high level. New developments in detector technology and sample environment are starting to pay off. The new possibilities with the imminent USM program will greatly strengthen and broaden the materials science program. At the same time, scientific results in fundamental atomic and particle physics are starting to lead the world. The initial results and those from the MuSEUM experiment will have a major and long-term impact. Ground-breaking experiments exploiting high-resolution TES X-ray detectors have already left their mark on muonic atom and molecule research and will continue to do so.

The MAC welcomes the availability of the new Research Building and looks forward to its exploitation. MAC noted the difficult situation with the H-line extension building, largely due to budgetary constraints.

## Summary of Recommendations

- The MAC supports prioritizing stable operation at 700 kW for the coming two years and recommends installing a standing expert target-review committee for the neutron target station, potentially including the muon and the neutrino targets.
- The MAC recommends systematically renewing ageing items. This should follow a prioritized and funded replacement plan, the pursuit of which must be a top priority.
- The MAC emphasizes the need to refill vacated positions with promising younger scientists when experienced ones are promoted or retired. This is very important for operating the current infrastructure and indispensable for any future upgrade plan.
- The MAC recommends continuation of the successful, leading technological developments, e.g. concerning the high-energy lasers, pressure cells and high-resolution detection systems, and intensifying the cooperation with their user groups and other muon facilities in this area and attraction of further collaborations.
- The MAC recommends concentrating efforts to obtain high-impact physics results on all muon beam lines, as e.g. the measurement of the 1S-2S transition of muonium in S2, the measurement of the muonium hyperfine-splitting in H1, demonstration of depth-resolved multi-layer  $\mu$ SR with USM in U1A, muon linear acceleration in H2 and muon-cyclotron acceleration in U1B.
- The MAC supports a staged realization of a new H-line building, including a later extension to accommodate the planned g-2 experiment; however, any first step still needs additional funding. MAC recommends the provision of resources to unlock the situation and get the project underway in its first phase.
- The MAC supports the MLF facility development plan with its three steps, MLF2030, MLF double and TS-2. For muon science, it will be essential that the pulse frequency of TS-2 be as high as possible.
- The MAC encourages continuing to reach out to the domestic user base and universities to establish more common projects, research MoUs, and joint positions, particularly in view of the development plans for the MLF facility. Among other things, continuation of the workshop series for the TS-2 is highly recommended.
- The MAC encourages continuation of the involvement in the outreach activities for

younger generations, such as KEK summer challenge (undergraduate students), Kasoku (Accelerator)-Kitchen (middle and high-school students) and Neutron and Muon School (graduate students and early career researchers). Those students and trainees will become the source of the user base over the next 5-10 years.

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## **APPENDIX I: Charges given to MAC**

- Evaluate the progress made in FY2025 in the target system and the beamlines, including the experimental areas and the sample environments.
- Evaluate the scenario of the prospects of MLF (upgrade of TS-1 and construction of TS-2), especially regarding the following items:
  - Evaluate the structure and procedure for starting the construction of TS-2 in the early 2030s.
  - Evaluate how to engage with the user community to discuss science cases and facility design: grouping the working groups.

## **APPENDIX II: Members of MAC**

Nori Aoi (Center for Nuclear Science, The University of Tokyo)

Makoto Fujiwara (TRIUMF)

Adrian Hillier (ISIS Neutron and Muon Facility)

Klaus Kirch (ETH Zurich and Paul Scherrer Institute), Chair

Kenji Kojima (TRIUMF)

Kenya Kubo (International Christian University)

Martin Mansson (KTH Royal Institute of Technology) - unavailable for this year's MAC meeting

Yoko Sugawara (Kitasato University)

Koji Yoshimura (Okayama University)

## APPENDIX III: Agenda for the MAC-2025 meeting of KEK/J-PARC in 2025

### January 26, 2025:

- 09:50 – 10:20 Executive Session
- 10:20 – 10:40 J-PARC overview (T. Kobayashi)
- 10:45 – 11:05 MLF overview and charge to MAC (T. Otomo)
- 11:10 – 11:15 Group Photo
- 11:15 – 11:30 Present status of IMSS Muon Science Laboratory (A. Koda)
- 11:35 – 11:50 Facility (MUSE) overview (N. Kawamura)
- 11:55 – 12:25 Muon Source (Target and proton beam tunnel) (S. Matoba)
- 12:35 – 13:35 Lunch Break
- 13:35 – 14:05 D-line (S. Takeshita)
- 14:15 – 14:45 S-line (J. Nakamura/P. Strasser/S. Nishimura)
- 14:55 – 15:15 Coffee Break
- 15:15 – 15:45 U-line (S. Kanda)
- 15:55 – 16:25 H-Line (T. Yamazaki)
- 16:35 – 16:55 Coffee Break
- 16:55 – 17:45 Executive Session
- 17:45 – 18:00 Break
- 18:00 – 20:00 Reception

### January 27, 2026:

- 09:30 – 09:50 MLF Roadmap (T. Otomo)
- 10:00 – 10:20 Coffee Break
- 10:20 – 10:35 TS-2 Facility design (N. Kawamura)
- 10:40 – 10:55 Roadmap workshop report (S. Takeshita)
- 11:00 – 11:20 Coffee Break
- 11:20 – 12:00 Executive Session
- 12:00 – 13:00 Lunch Break
- 13:00 – 15:00 Facility Tour
- 15:00 – 16:00 Executive Session
- 16:00 – 16:30 Concluding Remarks (K. Kirch)