

18 January 2021

Memorandum of Understanding between MWL External members & EHT Collaboration

Re: Proposal writing/coordination, data sharing/presentations, collaboration and publication policy

Dear Multiwavelength Working Group (MWL WG) Partners,

On behalf of the Event Horizon Telescope Collaboration (EHTC) Management Team (MT), we invite partners to sign the attached new/renewed Memorandum of Understanding with us, regarding coordination and work planning, from proposal writing up to the publication of papers that involve partner contributions.

This document covers the following key aspects: 1) Proposal writing and coordination for observations with MWL facilities to be carried out (quasi-) simultaneously with EHT, and 2) Publications and presentations that involve EHT and MWL data from such campaigns.

We hope that this MoU will serve as a constructive guideline to ensure good coordination of proposal writing, and to avoid any potential misunderstandings or information leaks particularly during the key embargo period prior to publications, and assure all participants of confidentiality and good ethics during the preparation and publication phase. Post-publication via the Outreach & Communication WGs we will share appropriate EHT materials and results to MWL WG partners to use in their talks, and likely formulate some guidelines about that usage -- this will be covered in a future discussion.

Sincerely yours,

EHT Management Team

Huib Jan van Langevelde, Director
Geoff Bower, Project Scientist
Remo Tilanus; Operations Manager
Rocco Lico; Secretary

on behalf of the Science Council, MWL and AGN WG conveners, represented here and in CC via: Dan Marrone, Sera Markoff, Kazuhiro Hada, Daryl Haggard, Thomas Krichbaum and Venkatesh Ramakrishnan.

Memorandum of Understanding between MWL External members & EHT Collaboration

In this memorandum of understanding (MOU), the Event Horizon Telescope Collaboration (EHTC) uses the term “partner” to include individuals, groups or consortia, as appropriate for the signatories.

Proposal Writing Policy

The purpose of the multi-wavelength working group (MWL WG) is to *support and enhance* EHTC science by providing complementary information in the form of images, spectra, and lightcurves or other variability information (e.g., power spectra), for objects observed during any EHTC campaign window. Multi-wavelength (MWL) is defined as longer wavelength (3mm and longer) single dish and very long baseline interferometry (VLBI), often coordinated with the active galactic nuclei working group (AGN WG), and non-VLBI facilities from infrared/optical through the Very-High-Energy (VHE) gamma-rays.

Definition of MWL proposals covered by this MoU:

Any MWL proposal involving EHTC and/or MWL WG members designed to coordinate (particularly in time) with the EHTC, on EHTC science targets (Sgr A*, M87, calibrators and PI targets) during or just before/after its observing window. Hereafter we will refer to these proposals as EHTC-MWL proposals.

Coordination guidelines:

In the past years we have seen non-affiliated groups claiming coordination with EHTC hence we must make clear (also to TACs) via consistent proposal formats that this is the purpose of the EHTC MWL WG, and only EHTC MWL proposals are officially endorsed. We also want to avoid conflicting proposals within the extended group of partners so it is important that proposals are announced well in advance, and reviewed/approved by the MWL (and AGN where relevant) WG coordinators.

Similar to the guidelines in effect for the EHTC Proposals WG, to be endorsed by the EHTC:

- 1) The intent to submit a EHTC MWL proposal must be announced **at least one month prior to deadline**, via the MWL WG Teamwork Space/messages.
- 2) A draft proposal must be circulated **at least two weeks prior to deadline** via the MWL WG Teamwork Space.
- 3) A final version must be approved in a timely fashion (at least a day or two ahead of the proposal deadline) by the MWL (and AGN, if relevant) WG coordinators.
- 4) EHTC MWL proposals must be led (as PI) by a member of the EHT or MWL/AGN WG collaboration. In addition, all EHTC-MWL proposals must include the following as Co-I's: The EHT Project Scientist, the MWL WG coordinators, the AGN WG coordinators if relevant. In turn by approving the proposal, WG coordinators ensure that the proposal does not clash with any other EHTC MWL proposal in terms of facility/target, and guarantee full EHTC coordination in terms of sharing schedules, and including the MWL during the 'scheduling sudoku' decision-making process.

Any proposal that is not circulated in time will not receive the approval/endorsement of the EHTC MWL WG and could in principle be superseded by a competing proposal that follows the above guidelines.

MWL Data Rights/Usage:

The results of successful campaigns should be shared within the MWL (and AGN if relevant) WG (confidentiality applies, see below).

All PIs/instrument groups involved in a successful EHTC-MWL proposal are free to give talks or publish their own data independently, without coordinating with the EHTC, as long as there is no mention of anyone else's data/results, i.e., other MWL partners or EHTC.

EHTC-MWL Publication Policy:

There are three categories of EHT publications: [\(to be updated upon final DAAPP\)](#):

- 1) **Collaboration Paper:** These are papers that are widely recognised throughout the EHTC to constitute the legacy of the EHT. These are expected to be of extraordinary scientific importance, address directly the key motivating science goals of the EHTC, and directly utilise the EHT VLBI data or ancillary data that most properly belongs to the EHTC rather than operators of an individual station. For these the author list will consist of "The EHT Collaboration" followed by all members of the EHTC in alphabetical order, unless they specifically request in writing to be removed from the authorship list.
- 2) **Official Paper:** These are papers that are widely recognised throughout the EHTC to be the product of the collaboration, though where a subset of EHTC members made the dominant contributions. These need not be based on EHT VLBI data or ancillary data that most properly belongs to the EHTC rather than operators of an individual station. All EHTC members not already on the primary author list (PAL) are automatically assumed to be coauthors in the secondary author list (SAL) unless they specifically request in writing to be removed from the authorship list.
- 3) **Related Paper:** These are papers on topics of substantial relevance to core EHTC science objectives. Examples include: papers documenting the development, testing and deployment of EHT instrumentation, or those that make use of EHTC-derived analysis tools, simulations, or ancillary data. Typically Related papers do not meet the requirements of a Collaboration or Official Paper. Most of the work of members of the EHTC on EHTC science is expected to fall into this category. All EHTC members are eligible to join the SAL pending written request to the PB, though short, primary-only author lists can be expected for many cases.

In signing this mutual MoU, the EHTC and the MWL partners agree on the following points:

- The EHTC will share general information in good faith about the results with our non-EHTC MWL WG partners, with the understanding that all information relating to EHTC results are under strict embargo until published, unless otherwise discussed. General information can

refer to what is needed for planning purposes, such as the list and timeline of planned publications. Specific information such as figures and EHTC images will not be shared generically (i.e. via MWL WG telecons) with external collaborators.

- If/when external MWL WG collaborators are contributing to an EHTC publication, via supplying data or other needed materials, the EHTC will have full transparency with such coauthors within the relevant writing group for each particular paper, on a need-to-know-basis, again with understanding that all EHTC results fall under data embargo until their publication.
- The EHTC will provide access to relevant external MWL WG members to collaboration spaces on Teamwork where discussions about individual papers, on a case-by-case basis, following the above understandings re embargo period.
- The author list will always be agreed upon on a case-by-case basis, but the general policy will be:
 - 1) Collaboration papers: any MWL WG member contributing data used for the publication will be included alphabetically and/or grouped by facility (as preferred by each collaborator/group) after the EHTC Members, similar to the formats Papers I-VI.
 - 2) Official papers: any MWL WG member contributing data will be included alphabetically, and/or grouped by facility, in the SAL unless their data play a primary role, in which case they will be included in the PAL or otherwise noted as corresponding author, as may be relevant for VHE collaborations. An example can be seen from the 2017 M87 MWL paper.
 - 3) Related papers: MWL WG members will be included in order of their contribution, similar to a regular publication, and can also lead a publication that uses EHT data as long as the EHT data are not the primary focus of the publication.
- Within these categories some papers will be coordinated by the MWL WG and some by the AGN WG, depending on the content of the paper. In general this will be handled on a case-by-case basis via the writing groups for a given paper, but as a guideline we envision the following cases:
 - case1: target=M87/SgrA, data=EHT/VLBI + opt/X/gamma → handled by MWL WG
 - case2: target=AGN, data=EHT + other VLBI → handled by AGN WG
 - case3: target=AGN, data=EHT + other VLBI + opt/X/gamma → handled by both AGN + MWL WGs, with lead established during writing process
- By signing this document the undersigned MWL WG partner acknowledges the sensitive nature of the EHTC (and other MWL collaborators') data and their results. Partners agree not to disseminate data or results in any way outside of the collaboration until their publication, or a case where they are otherwise informed that information can be shared. When in doubt, ask!

- For MWL WG members who represent collaborations (e.g., HESS, Fermi, etc.), partners will sign as a representative of their collaboration, and list the relevant members as an addendum. Partners also agree to keep the list of relevant members from their collaboration current, and are responsible for informing EHTC if someone has moved on from the project, so they can be removed from Teamwork access. Similarly if a new member joins the team for EHTC related projects, partners will inform the MWL WG and Teamwork access will be granted.
- For MWL WG members who represent collaborations, the EHTC asks that partners notify their facility director or official spokesperson, in writing, of this MoU by *sending back this document via replying to this email, as a signed and scanned PDF*, to the people listed as signatories at the bottom of this MOU and included in CC on this email, with the relevant partner director/spokesperson in CC.
- For individual MWL WG members, the EHTC asks that partners notify their chair/head/institute director, in writing, of this MoU by *sending back this document via replying to this email, as a signed and scanned PDF*, to the people listed as signatories at the bottom of this letter and included in CC on this email, with their chair/head/institute director in CC.
- By signing this MoU, partners agree to abide by the EHTC Code of Conduct ([link...](#))
- If partners violate the terms of this MoU, they understand that those partners will be removed from the MWL WG group and from EHTC publications containing results from future campaigns. Partners in violation of this MOU will lose their status as an external collaborator for the foreseeable future. The responsible party on the MoU (chair/director/spokesperson) will be informed.
- We (the MT and the signatories below) represent the entire EHTC in signing this MoU, which we will disseminate to the collaboration. The EHTC will be informed of the terms of this updated MoU, via a Collaboration email and this document will be added to the other key EHTC governance documents. In this we guarantee that partners' MWL data are given the same proprietary conditions as EHTC data, unless otherwise informed.

Partner and EHTC signatures...