

# **MWA Solar Heliospheric Ionospheric Science Working Group Policy**

## **Background**

The MWA Solar, Heliospheric and Ionospheric (SHI) science working group (SWG) is one of four key SWGs established at the inception of the MWA project. SHI SWG members are interested primarily in studies of the Sun, the solar corona, the heliosphere and the ionosphere. The current members of the SHI SWG are listed in Appendix A.

## **Scope**

This policy applies to SHI members who wish to publish any MWA data obtained as part of an MWA “guaranteed time” observing proposal (pertaining to SHI science) while those data are within the MWA proprietary period. Raw data that are still proprietary are subject to the project-wide MWA publication policy (MWA Board 2013a). The policy covers the publication of scientific data, algorithms, technical issues, software and system descriptions. This policy will be reviewed from time to time. Publication matters not explicitly covered here should be referred to the SHI SWG Chair.

## **Organisation of the SHI Science Working Group**

The SHI SWG is has the following management structure

- Chair
- Vice-Chair
- Solar Science Coordinator
- Heliospheric Science Coordinator
- Ionospheric Science Coordinator

The occupants of these positions are chosen by a nomination, followed by an election. The tenure of these positions is two years. One of the Chair and the Vice-Chair is chosen to be from Australia, and other person is from any other part of the world. At the end of the tenure, the Vice-Chair rotates to being the Chair of the SHI SWG. In view of the small size of the SHI SWG membership, it is permitted for one person to occupy more than one position in the SHI SWG management structure. Current occupants of these positions are listed in the Appendix B.

In terms of its membership, the MWA SHI team is currently perhaps the smallest MWA SWG, though the science interests represented in this team span a large range. The role of the SHI SWG Management team is to coordinate the effort within each of the SHI science areas, and also across them. The science coordinators for each of the science areas coordinate the effort for their respective areas, and work with the Chair and the Vice-Chair to achieve this. This group will coordinate all the activities related, but not limited, to: observing proposals for guaranteed MWA observing time; student proposals governed by the MWA Student policy; SHI publication proposals based on data within the

scope of this policy; and the SHI publications themselves. The group will attempt to resolve any disputes or conflicts which might arise.

**Membership of the SHI SWG** - is determined by, firstly, demonstrated interest in SHI science, secondly, being either staff or student in a current or former MWA Partner institution, formerly being such a person, or else being a collaborator of such a person, and thirdly acceptance of an application by the SHI SWG management. The current application process involves the applicant sending a short rationale for inclusion, their CV, and a list of their publications to the SHI SWG Chair for consideration by the SWG management.

**Guaranteed time observing proposals** – For each of the SHI science areas, the necessary coordination effort is put in to develop and submit coherent and non-overlapping observing proposals. There has been a tendency to submit a single omnibus proposal covering multiple science aspects, though this is not a requirement of the SHI SWG policy. All SWG members are welcome to propose the science aspects of their interest for inclusion in the proposal(s). The proposal effort is coordinated by the respective science coordinator and submitted on behalf of the SHI SWG.

**Student Projects** – The SHI SWG imposes no additional requirements for student projects beyond what are stipulated by the MWA Project (MWA Student Policy, [www.mwatelescope.org/index.php/team](http://www.mwatelescope.org/index.php/team)). SHI SWG members are encouraged to follow the process prescribed by the MWA Project to register projects by undergraduate and postgraduate students. Upon request, the SHI SWG Chair, in consultation with the SWG Management team, will provide a recommendation to the MWA Principal Scientist on the appropriateness of specific SHI student proposals.

**Science Project Proposals** – Projects likely to lead to one or more publications are referred to as science projects. Science project proposals can be made to the respective science coordinator with a copy to the Chair and Vice Chair at any time. The science proposal is to be shared with the entire SHI SWG for at least a period of two weeks prior to formal approval by the SHI SWG. Information of all successful proposals is shared with the MWA Project Scientist. Science proposals will need to be followed up by a publication, or renewed, within two years. Principal investigators of accepted science projects will be requested to provide a project update every 6-12 months. To avoid potential conflicts and improve coordination, SHI SWG members are encouraged, but not required, to submit a project proposal even if they use data outside the proprietary window.

## **Publications**

### **1 General**

All SHI-SWG papers making use of proprietary MWA\_data must derive from work based on an accepted SHI science project proposal. As per the MWA data access policy, the raw MWA data has a proprietary period of 18 months. The higher-order data products derived from raw data by the SHI SWG members do not have any proprietary period associated with them. Paper proposals submitted within 18 months of the data being taken are subject to the MWA publication policy. The SHI SWG imposes no additional requirements in terms of a publication policy.

### **2 MWA publication**

The MWA publication policy (MWA Board 2013a) requires that any SHI papers using proprietary MWA data need to be led by an Individual Member of the MWA Project or a student supervised by such a team member. These papers will need to have been through the project proposal procedure outlined above.

The MWA publication policy requires that once serious work has commenced on a publication related to a science proposal (submitted during the proprietary period of the raw data), but well before a draft paper is available, a publication proposal be circulated to MWA members. The final paper should be distributed to MWA members within a year of the publication proposal. When a paper is ready to be submitted for publication, in addition to the steps above two further MWA policy steps need to be completed: collaboration review and final review. These are detailed in the MWA publication policy. The MWA publication policy might also mandate the inclusion of MWA builders list as co-authors, including a citation of the MWA system description, and listing appropriate acknowledgments. The latest MWA publication policy should be consulted for updated information and requirements. Any disputes or variances are to be adjudicated by the SHI Chair and Vice-Chair prior to referral to the MWA Principal Scientist.

### **3 SHI publication of MWA data after the proprietary period**

As mentioned earlier, in the case of a publication proposed after the raw data have ceased to be proprietary, the SHI SWG imposes no additional publication policy. It does however maintain the expectation of general professional courtesy of the PI of the proposal, by informing the SHI SWG of the project's existence and then the status of the research at periodic intervals.

### **4 Policy for Papers Based on Public Higher Order Data**

For papers based on higher-order publicly released data, members of the SHI SWG are encouraged to follow the project and paper proposal route to ensure no duplication of effort and ensure the best science outcomes by drawing on the breadth of the SHI SWG.

## **5 Builders lists & Authorship**

The SHI SWG imposes no builders list or a requirement of inclusion of SHI SWG members to be included as co-authors. This will be reviewed periodically and might change in the future. All SHI SWG publications will comply with the MWA publication policy.

## **Acknowledgements**

No additional acknowledgments are required beyond those stated in the MWA publication policy.

## **References**

MWA Board (2013a)

MWA Publication Policy, [www.mwatelescope.org/index.php/team](http://www.mwatelescope.org/index.php/team) MWA Board (2013b)

MWA Student Policy, [www.mwatelescope.org/index.php/team](http://www.mwatelescope.org/index.php/team)

Wayth, R.B. et al. (2015), PASA, 32, 25

Wayth, R.B. et al. (2018), PASA, 35, 33

Beardsley et al. (2019), PASA, 36, 50B

## **Appendix A**

### **MWA SHI SWG Members (as of 2020 June)**

1. Anthea Coster, MIT Haystack Observatory, USA
2. Atul Mohan, Rosseland Centre for Solar Physics, Institute of Theoretical Astrophysics, University of Oslo, Oslo
3. Ayan Biswas, National Centre for Radio Astrophysics, TIFR, India
4. Bernard V. Jackson, UCSD, USA
5. Colin Lonsdale, MIT Haystack Observatory, USA
6. David Herne, Curtin, Australia
7. Devoiyoti Kansabanik, National Centre for Radio Astrophysics, TIFR, India
8. Divya Oberoi, National Centre for Radio Astrophysics, TIFR, India
9. Iver Cairns, University of Sydney, Australia
10. John Morgan, Curtin, Australia
11. Kamen Kozarev, Bulgarian Academy of Science, Bulgaria
12. Leonid Benkevitch, MIT Haystack Observatory, USA
13. Mario Bisi, STFC, UK

14. Mary Knapp, MIT Haystack Observatory, USA
15. Mozibur Rahman, University of Sydney, Australia
16. Patrick McCauley, University of Sydney, Australia
17. Philip Erickson, MIT Haystack Observatory, USA
18. Rohit Sharma, FHNW, Switzerland
19. Stephen White, AFRL, Kirtland, USA
20. Surajit Mondal, National Centre for Radio Astrophysics, TIFR, India

## **Appendix B**

### **MWA SWG Management team (mid-2019 to mid-2021)**

1. Chair – Divya Oberoi, NCRA-TIFR, India
2. Vice-Chair – John Morgan, Curtin, Australia
3. Solar Science Coordinator – Iver Cairns, University of Sydney, Australia
4. Heliospheric Science Coordinator – John Morgan, Curtin, Australia
5. Ionospheric Science Coordinator – Philip Erickson, MIT Haystack Observatory, USA