



MEETING

Meeting Date 14 April 2021

Ref MoMAAUG#6

ESDC-GEN-MOM-0027

Meeting Place WebEx

Chairperson Natalie Webb

Minute's Date 18 June 2021

Participants

AAUG Members: Natalie Webb (AAUG Chair), Hervé Bouy, Christopher Conelice, Ioannis Georgantopoulos, Søren Larsen, Sandra Savaglio, Eva Villaver

In attendance : Deborah Baines (ESDC Astronomy Archives Science Lead), Guido de Marchi (ESDC Science Lead), Bruno Merín (Head of ESDC), Jan Tauber (Planck Project Scientist and ESA Astronomy Study and Project Scientist's representative), Bruno Altieri (Euclid Archive Scientist), Elena Colomo (Astronomy Archives Technical Lead), Peter Kretschmar (XMM-Newton Mission Manager), Marcos Lopez (JWST Archive Scientist), Elena Puga (ESDC Legacy Archive Scientist), Norbert Schartel (XMM-Newton Project Scientist)

Absent:

Subject Minutes of the Astronomy Archives User Group (AAUG) meeting #6.

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Description	Action	Status
AAUG members to investigate one EU project each, investigate the type of data products from ESA missions that the project will be creating, advise ESDC what to ask the project PI, and if there is enough information at this point, recommend if the data should be added to any of the ESA science archives.	2019-02-13/13	IN PROGRESS
ESDC to contact the relevant EU project PIs.	2019-02-13/14	OPEN
G. de Marchi/ D. Baines to define a timescale for implementation of the visitor programme and the necessary interaction steps with the AAUG.	2019-10-14/01	CLOSED
D. Baines to create an in-depth report on the user survey results and send to all stakeholders.	2019-10-14/07	CLOSED
D. Baines and G. de Marchi to undertake the replacement for the 8 th member of the AAUG. In	2020-10-02/01	OPEN



Description	Action	Status
meeting #6 the AAUG agreed to give suggestions for new AAUG members to ESDC by end of April 2021. ESDC to also poll the AWG and JWST and Euclid colleagues for names.		
ESDC to send the Gaia statistics on the number of queries received through the different modes of accessing the archive (UI, cone search, astroquery).	2020-10-02/02	IN PROGRESS
D. Baines to examine the user survey answers from professional astronomers only and examine how they rated the archive and ESASky, and which preferences they expressed.	2020-10-02/03	CLOSED
D. Baines to update the usage graphs in the user survey report to show only the answers from the participants that use each archive and to add the number of users that responded per archive.	2020-10-02/04	CLOSED
D. Baines to check the FP7 large projects for any using ESA data that may have been missed.	2020-10-02/05	CLOSED
ESDC to begin contacting the PIs of the identified EU projects to gauge their interest in ESA preserving their project data.	2020-10-02/06	IN PROGRESS
D. Baines to circulate a doodle to find dates for the next AAUG meeting, to be held in Spring 2021.	2020-10-02/07	CLOSED
AAUG members to poll their communities before each AAUG meeting for any feedback, suggestions, comments that they would like to be raised in the upcoming meeting.	2021-04-14/01	Due 1 month before the next AAUG meeting.
N. Webb to gather and contact the astronomy lists for ESA countries that do not have an AAUG member representative and poll these communities for any feedback to be raised in the upcoming AAUG meeting.	2021-04-14/02	Due 1 month before the next AAUG meeting.
ESDC to also contact the PIs for the five recently identified EU H2020 and FP7 projects (action linked to Action 2020-10-02/06).	2021-04-14/03	
D. Baines to circulate a doodle to find dates for the next AAUG meeting, to be held in October 2021.	2021-04-14/04	Due 16/04/21



WELCOME:

N. Webb and D. Baines opened the meeting on Wednesday 14th April 2021 by welcoming everyone and summarising the main topics to be discussed during the meeting. The meeting was held via telecon due to the global COVID-19 pandemic.

ADOPTION OF THE AGENDA:

The agenda of the meeting was presented and adopted by the AAUG members.

REVIEW OF ACTIONS:

The actions from the previous meeting were reviewed. Five actions remain open. Three of these actions are related to the EU H2020 and FP7 projects and were discussed in a dedicated session (see discussion session 2). The actions and their status are the following: **Action 2019-02-13/13:** *AAUG members to investigate one EU project each, investigate the type of data products from ESA missions that the project will be creating, advise ESDC what to ask the project PI, and if there is enough information at this point, recommend if the data should be added to any of the ESA science archives.* This action is in progress and will continue when feedback is received from Action 2020-10-02/06. **Action 2019-02-13/14:** *ESDC to contact the relevant EU project PIs.* This action is duplicated somewhat in the following action, so it has been agreed to close it. **Action 2020-10-02/06:** *ESDC to begin contacting the PIs of the identified EU projects to gauge their interest in ESA preserving their project data.* This action is ongoing and was reported in discussion session 2.

Two further actions remain open with the following status: **Action 2020-10-02/01:** *D. Baines and G. de Marchi to undertake the replacement for the 8th member of the AAUG.* The ESDC plan to find a replacement for the next face to face AAUG meeting. The AAUG agreed it would be important that a new member has experience with an upcoming important mission such as Euclid or JWST. The previous member being replaced had Planck mission and radio/submm experience. G. de Marchi noted that there is a possibility that two new members could be asked, if the AAUG want to ensure all of the above experience is covered. The AAUG agreed to give suggestions for new AAUG members to ESDC by the end of next week. ESDC will also poll the Astronomy Working Group for names, along with asking JWST and Euclid colleagues. **Action 2020-10-02/02:** *ESDC to send the Gaia statistics on the number of queries received through the different modes of accessing the archive (UI, cone search, astroquery).* This action is in progress and will be collated by the ESDC Gaia archive team.

The closed actions related to the 2019 user survey were also discussed. The AAUG asked what lessons learned can be taken from the user survey. One suggestion from D. Baines is to try and advertise the next survey more widely to the scientific community, including to all European national astronomy email lists and on the astronomy archive interfaces, many of which now have banners for notifications (which were not present during the 2019 user survey). G. de Marchi suggested to use the same channels that are used to advertise the



ESA research fellows. N. Webb brought up the point that the user survey also helped to raise the awareness of the ESA astronomy archives. It also highlighted the fact that only one third of the professional astronomers that replied to the survey were aware of the AAUG (see **Recommendation 2020-04-21/01**). N. Webb suggested that all AAUG members poll their communities before each AAUG meeting for any feedback, suggestions and comments that they would like to be raised in the upcoming meeting (**Action 2021-04-14/01**). N. Webb said she would take an action to gather and contact the astronomy lists for ESA countries not covered by AAUG members and will poll these communities for feedback (**Action 2021-04-14/02**). This will also help to raise the awareness of the AAUG and the ESA astronomy archives in the community. An agenda item will be added in the next meeting to discuss the feedback.



PRESENTATIONS:

The following presentations and discussion sessions were held on 14th April 2021:

1. ESA Astronomy Archives session at EAS 2021 (G. de Marchi, D. Baines, N. Webb)
2. EU Horizon 2020 and FP7 projects update (E. Puga, D. Baines)
3. Archival Research Visitor Programme (G. de Marchi)
4. Date and time of next meeting (All)
5. AOB
6. Closed session

The slides of the presentations are available on the ESAC Science Data Centre (ESDC) public web site, under the heading Archives User Groups, Astronomy: <https://www.cosmos.esa.int/web/esdc/aaug/meeting6>

DISCUSSIONS:

Discussions took place during and after each presentation. This section presents a summary of the discussions and is ordered by the above presentations and sessions list.

1. ESA Astronomy Archives session at EAS 2021

G. de Marchi presented a couple of slides summarising the plans for the ESA Archives lunch session at the 2021 European Astronomical Society (EAS) meeting. The session will be held on the last day of the EAS meeting (2nd July). The meeting is fully virtual, like last year, and will include presentations on the Archival Research Visitor Programme, on the AAUG, an ESASky demo and an ESA Datalabs presentation and demo. The last half hour will be reserved for an open-floor discussions session. This will be a webinar format, where questions are asked in writing with a panel to address them. The preliminary programme is online and can be found here: <https://eas.unige.ch/EAS2021/session.jsp?id=LS5>. G. de Marchi asked if any of the AAUG members were already attending the EAS meeting and wanted to join the lunch session panel. S. Larsen and S. Savaglio confirmed they were attending and can join the panel.

2. EU Horizon 2020 and FP7 projects update

D. Baines gave a brief overview, background and status on the EU Horizon 2020 and FP7 project assessments. During the last AAUG meeting, in October 2020, there was a dedicated discussion session on EU Horizon 2020 and FP7 projects that use ESA archival data and produce high level or user provided products and if these products should be preserved by ESA. In that meeting, the ESDC presented a flow chart to show the steps in the process to be followed for each project evaluation and discussions were held on the difficulties encountered by the AAUG when assessing the projects; on data becoming obsolete; on the additional project tools; and that it is unclear if the projects are interested in ESA preserving the data for the community. This led to 1 recommendation (*Recommendation 2020-10-02/03*) and 2 actions given to the



ESDC (*Action 2020-10-02/05 and Action 2020-10-02/06*). D. Baines presented the results for *Action 2020-10-02/06: to search again the FP7 database to check the FP7 large projects for any using ESA data that may have been missed*. One further FP7 project was identified, related to XMM-Newton, called **STRONGGRAVITY**: Probing Strong Gravity by Black Holes Across the Range of Masses. This project used data from XMM-Newton and ESO. The project products appear to mainly be data and models. The AAUG were aware of the publications from the project, but not the project itself. It was agreed to add this project to the list contacted by the ESDC (see *Recommendation 2021-04-21/03*).

Additionally, the Horizon 2020 database was searched for recently awarded projects. Four projects were identified: **XMM2ATHENA**: a pathfinder for future multi-wavelength and multi-messenger observations with Athena. The PI of this project is N. Webb who has already invited many ESA XMM-Newton colleagues very early on in the project phase (to the kick-off meeting) and the project plans to tailor the products to ESA requirements. The other three identified H2020 projects are: **GaiaUnlimited**; Who is In, and Who is Not? Determining the Gaia Survey Selection Function; **NEMESIS**: Novel Evolutionary Model for the Early stages of Stars with Intelligent Systems; and **EXPLORE**: Innovative Scientific Data Exploration and Exploitation Applications for Space Sciences (project intends on using ESA Datalabs and the ESCAPE Science Analysis Platform). It was agreed that the ESDC also contacts the PIs for these five recently identified projects (**Action 2021-04-14/03** and see *Recommendation 2021-04-21/03*).

E. Puga continued the presentation and presented the work on *Action 2020-10-02/06: ESDC to begin contacting the PIs of the identified EU projects to gauge their interest in ESA preserving their project data*. All projects have been contacted for a meeting with the ESDC and five projects responded. The meeting goals are to gauge interest in ESA preserving the project data and to estimate the ESDC effort to repatriate and host the data. Two meetings have taken place (SBNAF, StarFormMapper), three more are planned (ETAEarth, Exoplanet-A and HELP) and the other projects have yet to respond. The AAUG commented that HELP is an important project with data not to be lost to the community. E. Puga presented the results from the two meetings, the first with the project SBNAF. Data products from SBNAF are public and have been delivered to the Minor Planetary Center, CDS and the Planetary Data Systems. Additionally, they have provided UPDPs (User Provided Data Products) to the ESA Herschel Science Archive and Herschel PACS reduction special tools for solar system objects. The project therefore deem that the data have been sufficiently delivered to both ESA and NASA archives. They acknowledge that user data products associated to more recent publications could be made public via ESA archives and they are interested in ESA Datalabs examples (pending funding for an Archival Research Visitor Programme). A preliminary meeting was held with the project StarFormMapper. Colleagues at ESAC are involved in this project, therefore the readiness of products to be ingested and included in Datalabs is more mature (mainly Gaia and Herschel synthetic simulation data for young stellar clusters).

3. Archival Research Visitor Programme

G. de Marchi presented a short recap and status about the Archival Research Visitor Programme. The programme aims to increase the scientific return from ESA missions by inviting scientists to ESAC and ESTEC who are interested in pursuing research based on publicly available data in the ESA Space Science Archives. The programme was launched at the beginning of March 2021 and announced through many channels (ESDC newsletter, mission newsletters, professional societies, job registers, space agencies, etc.).



ESA have already received many expressions of interest and questions and several PhD advisors have been in contact to support their students. The deadline for applications is 30th April 2021, with first visits to start in the autumn. If the Covid19 situation remains uncertain, it might be considered to have a partial “virtual” start for the selected projects.

Once the deadline has passed, the technical feasibility of the projects will be assessed by ESA mission experts. The ESDC will then send all applications by mid-May to the AAUG members evaluating the scientific merit of the projects. The review committee will then meet around the 21st June and will include ESDC scientists, ESA Faculty scientists and members from each of the Archives User Groups (Astronomy, Planetary and Heliophysics). About five positions are available for this call with 30 to 50 applications expected, at most 10 to 15 applications per area. The results will be announced at the end of June (timed for the EAS meeting). A discussion followed on the best way to obtain the scientific assessment of the proposals and volunteers were asked for from the AAUG. The AAUG agreed to involving all AAUG members to evaluate the proposals on a scale that will be agreed between the three areas evaluating proposals (see **Recommendation 2021-04-21/04**). The average grades for the evaluated proposals will then be calculated and sent by the AAUG chair to the ESDC, ready for the review committee meeting towards the end of June.

4. Date and time of next meeting

It was agreed that a doodle will be sent to the AAUG and ESDC members by the end of the week to fix the dates for the next meeting, planned for October 2021 and if possible in person at ESTEC (**Action 2021-04-14/04**).

5. AOB

There were no AOBs raised in this meeting.

RECOMMENDATIONS

The following recommendations were formulated by the AAUG:

User Survey

Recommendation 2021-04-21/01: The 2019 ESA Astronomy Archive User survey was extremely useful in providing feedback to the ESAC Science Data Centre (ESDC) concerning the usage of the archive, ideas to improve its usefulness for research, as well as for outreach purposes. Further, it served as a way to publicise the recent improvements to the excellent services that are now provided by the ESDC. The 2019 survey also highlighted the fact that only one third of the professional astronomers that replied to the survey were aware of the Astronomy Archives User Group (AAUG). Raising awareness is important for receiving feedback about the ESDC services, which is essential to continue to improve the services developed and increase the number of users accessing them. The survey helped to raise awareness of the AAUG. For all these reasons, we recommend that a new survey should be conducted within the next one to two years, once the improvements suggested in the previous survey have been implemented. This survey should be widely publicised via both the mailing lists employed in 2019 and through national astronomy mailing lists maintained in many of the European countries, as well as national (space) agencies, where possible. The AAUG members can help disseminate the survey widely.

Ongoing Developments of ESASky

Recommendation 2021-04-21/02: ESASky has incorporated a great many changes in recent years which has allowed it to become a very complete and useful resource for astronomy research, which is greatly appreciated by both professional researchers and the public. In order to continue to provide the best service possible, the AAUG recommends that ESA Sky provides the opportunity to search in a user defined cone or a region of sky, as mentioned in *Recommendation 2020-10-02/02*. The AAUG also suggests that the ESDC browse the extensive repository zenodo.org which is provided by CERN and maybe a useful resource.

Inclusion of non-ESA data products / pipelines in the archives

Recommendation 2021-04-21/03: The AAUG congratulates the ESDC on the excellent procedure put into place to accommodate products resulting from FP6, FP7 and H2020 projects concerned with data from ESA missions. In particular, the agenda put together for the meeting with those responsible for the EU projects is very well designed and complete. The AAUG understand that it is a difficult task to retrieve products from finished projects, but it should be easier to procure products from ongoing projects as there should be the manpower to provide the necessary commodities. Ideally there should be a strong link between ESA and the project from the outset, so that the products can be tailored to ESA requirements. For this reason, the AAUG recommends that the ESDC also contacts those responsible for the 5 projects that have been recently identified, as they are all centred on data from ESA missions and the majority are in the early



phases of their programmes.

Visitors programme proposal evaluation procedure

Recommendation 2021-04-21/04: Regarding the evaluation of the proposals submitted to the Archival Research Visitor programme, for the initial rounds, the AAUG recommend involving all of the AAUG members to evaluate the proposals on a scale that will be agreed between the three areas evaluating proposals (Astronomy, Heliophysics and Planetary Science). In this way, there will be an expert available in the majority of the scientific areas addressed in the proposals, ensuring that the best scientific cases are indeed selected and the larger number of assessors will limit the number of proposals with no one to evaluate them due to conflicts. The average grades for the evaluated proposals can then be put forward for the meeting with the representatives who have evaluated the proposals emanating from Heliophysics and Planetary Science.