

Final report of the Open RIA Meeting

“Reunión del grupo de trabajo español de HWO 2026”

1. Introduction and objectives

This meeting has been convened as part of the activities of the Spanish working group for NASA's next flagship project: the Habitable Worlds Observatory (HWO). The meeting is open to the entire Spanish scientific community, including those in the fields of science, instrumentation, and data science.

The main objective is to initiate the creation of a consortium for science and instrumentation for HWO. To this end, the meeting will be structured in two parts:

The first part is dedicated to presenting the current status of the project. This session includes presentations from external speakers from NASA, as well as representatives from European research groups that are proposing and developing instrumentation for HWO.

The second part focus on defining priority scientific interests, existing capabilities, and lines of development in instrumentation. It will also address the development of a work plan for the period 2026–2027.

2. SOC and LOC

Scientific Organizing Committee (SOC) :

Prof. Ana I Gómez de Castro contacted the Agencies representatives for the various presentations on the HWO project, as well as the current leaders of the instruments proposals. All participants were invited to present their proposals and contribute to the final minutes (see summary at the end of this report).

Local Organizing Committee (LOC):

- Ana I Gómez de Castro,
- Maria Frutos,
- Raúl de la Fuente
- Sonia Lizarbe

3. Organization and participants

Include key details about the organization of the meeting:

- ◆ Type of Event: Hybrid meeting
- ◆ Dates: 27-28/May/2026.
- ◆ Venue: Facultad de CC Matemáticas, Universidad Complutense de Madrid
- ◆ Visits: No
- ◆ Media Announcement: Website, mailing to SEA community, UCM meeting announcement system. Describe the media channels used to announce the meeting.

Participant Statistics:

- ◆ Total Number: 60.
- ◆ Gender and Diversity Balance: 38(M),22(F).

Inclusion of Meeting Photos:



4. Specific contributions related to ICTSs/RIA

The meeting was devoted to the participation of the Spanish community in the HWO project addressing mainly, the possible participation in the instruments consortia

- 12:15 El proyecto HWO y la Agencia Espacial Española. Alicia Miró/AEE
- 12:30 El proyecto HWO – participación de la Comunidad científica española. Ana I Gómez de Castro/UCM
- 13:00 The HWO project – current status and future plans.
- 13:00 The HWO Observatory – Breann Sitarski/NASA
- 14:00 – 15:00 LUNCH BREAK
- 15:00 The instrument POLLUX for HWO. Luca Fossatti/Univ. Viena.

- 15:30 The HWO project in UK. Plans for instrumentation. Martin A. Barstow/Leicester Univ.
- 16:00 The instrument LUMUS for HWO. Kevin France/Univ. Colorado

5. Sponsors

- Universidad Complutense de Madrid: Venue, spaces, videoconference system for on-line attendees.
- RIA: Cattering

Both sponsors contributed to the diffusion of the meeting and the preparation of the website.

6. Media impact

N/A (working group meeting - [final news in UCM](#))

7. Summary of the meeting

The working group prepared a report at the request of the Spanish Space Agency (Alicia Miró) to describe the interests and activities of the Spanish community in NASA's flagship project: HWO.

During the meeting, the HWO Working Group divided into four subgroups to address the different scientific interests and the instrumentation that would be required for this research with HWO. The summaries prepared by each group are in Appendices 2-5.

The final conclusions were:

1. The community's interest is focused on three main instruments::
 - Ultraviolet Spectropolarimeter - POLLUX.
 - Multi-object Spectrograph (MOS) - Integral Field Unit (IFU).
 - High Resolution Camera (HRI).
2. There is significant interest in the [use of the coronagraph](#), but no group believes it can contribute to the instrumentation's development.
3. There is [interest in developing a StarShade, which is envisioned as a second-generation instrument for HWO](#).

In addition, characteristics and a potential collaborative structure among Spanish centers for participation in the three instruments were proposed. No interest was expressed in leading the technological development of any instrument.

The characteristics of the instruments proposed by the community are summarized in Table 1.

Table 1: SUMMARY of SCIENTIFIC REQUIREMENTS

	POLLUX	POLIFUMOS	HRI
Dispersion	100,000 (500,5,000)	4,000 - 6,000 (100-300,15,000)	100, 2,000
Field of view	Point-like sources	MOS:3'x3'; IFU:4"x4"	3'x3'
Angular resolution	N/A	5mas, 20 mas	5mas, 20 mas
Spectral range (Spectroscopy)	90-2200 nm	100-380 nm Priority 90-1,200 nm Good	100-380 nm
Spectral range (filters)			Narrow: HI (122 nm), OI (130,135.6nm), H2O(125nm), Auroral (155, 160 nm), HeII (164 nm), MgII (280 nm), CH4(890 nm), Balmer jump, H2 (145 nm), Halpha(656.3 nm) Midband: 217.5 nm, Aerosoles (225 nm, 275 nm, 343 nm) Broad Band: FUV, MUV, NUV, U,B, V, R, I
Spectro- Polarimetry Range Dispersion	100-340 nm, 50,000, 1,000	120-400 nm 100-300	

The groups interested in participating in the development of instrumentation and the technologies to which they could contribute are summarized in Table 2. During the meeting, a Team-lead was appointed to monitor each proposed instrument.

TABLE 2: SUMMARY of INTERESTS in INSTRUMENT CONSORTIA

	POLLUX	POLIFUMOS	HRI
Tecnologies	MUV-NUV spectrograph, polarizer, beam splitter, thermal control, thermo- mechanics, mechanics, calibration suites	thermal control, thermo-mechanics, mechanics, calibration suites, UV spectropolarimetry	OUL –based, thermal control, thermo-mechanics, mechanics, calibration suites
Teams	UCM, CAB, IAC, IAA, UA, GOLD	CAB, EHU, IAA, IAC, CEPCA, UAM, UA, UAH, UCM, GOLD	UCM, CAB, IAA, IAC, UAM, UA, UAH, EHU, GOLD
Proposed Lead	UCM	CAB	UCM

Appendix.

Participants list:

Type	First Name	Last Name	Email	Affiliation
In person	Ana Inés	Gómez de Castro	aig@ucm.es	Universidad Complutense de Madrid
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Program:

- **Día 1, 27 de mayo**

- 12:00 Bienvenida y presentaciones. Ana I Gomez de Castro/UCM
- 12:15 El proyecto HWO y la Agencia Espacial Española. Alicia Miró/AEE
- 12:30 El proyecto HWO – participación de la Comunidad científica española. Ana I Gómez de Castro/UCM
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- 16:00 The instrument LUMUS for HWO. Kevin France/Univ. Colorado
- 16:30 – 17:00 COFFE BREAK

PRESENTATIONS by the Spanish Community:

- 17:00 HWO Target stars. Jose Caballero/CAB-INTA-CSIC.
- 17:15 Why massive stars need to be in HWO. Miriam García/CAB-INTA-CSIC.
- 17:30 How prepared we are for the characterisation of rocky exoplanets with HWO. Leonardo Gkouvelis/IAA-CSIC
- 17:45 Expected performance of ELT and ANDES for small, potentially habitable planets research. Enric Pallé/IAC
- 18:00 HWO y la investigación del Sistema Solar. Fernando Tinaut
- 18:15 Astrobiología. Ana I. Gómez de Castro
- 18:30 Discusión y preparación de la siguiente jornada.

- **Día 2, 28 de mayo**

- 09:30 Presentaciones por parte de los grupos de trabajo de la ciencia y del tipo de datos que precisan.
- 11:30 COFFE BREAK
- 12:00 Presentaciones por parte de grupos de instrumentación e ingeniería de datos y/o instituciones de capacidades y posibilidades para HWO.
- 14:00 COMIDA
- 15:00 Discusión General:
 - Organización de la comunidad española para HWO.
 - Elaboración de un plan de trabajo para el periodo 2026–2027.