



Announcement of opportunity for ESA-appointed scientists in the Nancy Grace Roman Space Telescope mission

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1 INTRODUCTION

1.1 Purpose and scope

This Announcement of Opportunity (AO) solicits the participation of the scientific community in the role of ESA-appointed scientists in the Nancy Grace Roman Space Telescope (*Roman*) mission. Through the appointment, ESA intends to gather independent advice for optimising the usage of the mission by the general scientific community.

Roman is a NASA-led observatory designed to answer essential questions in the areas of dark energy, exoplanets, and infrared astrophysics. The telescope has a primary mirror of 2.4 metres in diameter, and will carry two instruments, the Wide Field Instrument (WFI), and the Coronagraph Instrument (CI).

The WFI is a 300-megapixel multi-band visible and near-infrared camera with a field of view of 0.28 square degrees, while the Coronagraph Instrument is a high-contrast, small field of view camera and spectrometer covering the visible and near-infrared wavelengths using starlight suppression techniques.

The scientific objectives of the mission include probing the history of the Universe and the growth of cosmic structure, with the goal of measuring the effects of dark energy, as well as searching for exoplanets in the Milky Way using gravitational micro-lensing.

The *Roman* space telescope will have a primary mission lifetime of 5 years, with a potential 5 year extended mission.

The Science Programme Committee approved ESA participation in the *Roman* mission as a Mission of Opportunity at its meeting in June 2019. *Roman* is scheduled to launch not later than May 2027.

In addition to the hardware deliverables, ESA will appoint a number of individual scientists to the Core Community Survey (CCS) committees, the WFI Project Infrastructure Teams (PIT) and to the Coronagraph Community Participation Programme (CCPP).

The role of the CCS definition committees [AO-D3] is to represent the full breath of the astronomical community's interest in the CCSs and explore the impact of various trades in observational strategy on the CCSs' overall science return. ESA-appointed scientists will join the CCS committees formed by NASA.

The role of the PITs is to partner with the Science Centres to provide comprehensive and sustained support to the *Roman* project and the science community for research areas that require long-term scientific infrastructure development, e.g. software tools, analyses, calibrations, simulations, etc. PIT proposals have been selected by NASA that provide infrastructure to support the science objectives in cosmology and exoplanet demographics, since these are needed to meet the mission success criteria. The list of selected PITs can be found in the abstracts of selected proposals document accompanying this AO.

The CCPP envisages individuals or small teams working with the Coronagraph Instrument team to plan and execute its technology demonstration observations. The ESA-appointed scientist will join the CCPP Team formed from the selected NASA proposals; this team will act as a cohesive unit, as opposed to a collection of individual teams. The role of the CCPP Team is to maximize the long-term value of the technology demonstration activities and datasets to the community, including the value to future exoplanet detection missions. The CCPP Team is expected to accomplish this by engaging with the broader community on how best to use the Coronagraph Instrument during its technology demonstration phase; for example, by soliciting community input on target selection.

In this respect, we draw the attention of the European community to the recently released NASA announcement¹ on the selection of the PITs and CCPP scientists to participate in Roman.

The ESA appointed positions will be for a period of three years, renewable. With the exception of expenses incurred while travelling for activities related to the current call (a maximum of two transatlantic trips per year), ESA will not fund the activities of the scientist and each proposer is responsible for securing his/her own funding from other sources.

The schedule for this AO cycle is given in Table 1.

Table 1: AO schedule and deadlines

Date	Event
29 August 2023	Release of this AO
15 September 2023, 12:00 hrs (noon) CEST	Mandatory Letters of Intent due
20 October 2023, 12:00 hrs (noon) CEST	Proposals due
4th Quarter 2023	Appointment of selected scientists

1.2 AO documentation package

[AO-D1] *Roman* mission website: <https://roman.gsfc.nasa.gov/>

[AO-D2] NASA ROSES call:
<https://nspires.nasaprs.com/external/solicitations/summary.do?solId={1BDOAA55-40BB-1419-EEA1-64FF5B4269D3}>

[AO-D3] Description of the Core Community Survey definition teams: [2023 Volume 40 Issue 01 \(stsci.edu\)](#)

¹ <https://nspires.nasaprs.com/external/solicitations/summary.do?solId=%7b1BDOAA55-40BB-1419-EEA1-64FF5B4269D3%7d>

1.3 Mission summary

A description of the *Roman* mission science objectives, science measurements, observation strategy, and mission summary can be found in [AO-D1].

2 APPOINTMENT REQUIREMENTS AND CONDITIONS

This call is open to scientists based in ESA Member States.

The ESA-appointed scientists will join the ESA Project Scientist in representing the European scientific community interests in the *Roman* mission, through participation in the CCS committees, WFI Project Infrastructure Teams (PITs) and Coronagraph Community Participation Programme (CCPP) [AO-D2]. The main tasks of the selected scientists will be:

- lead a team of European scientists which will support one or more of the PITs, the CCPP or the CCS committees selected by NASA and contribute to their agreed tasks in an effective and scientifically significant manner;
- attend meetings of the CCS committees, PIT(s), and CCPP, and more generally act as an effective point of contact between the CCS committees, the PIT(s)/CCPP and their team, communicating progress and results in both directions;
- on request, provide ESA with up-to-date information on the state of activities of the CCS committees/PIT/CCPP and their team;
- on request, support ESA in an advisory capacity on any activities it may undertake geared to support the community of European users of *Roman* data, and on any public relations/communications activities related to *Roman*;
- inform ESA of any significant changes in the scope, objectives, tasks, and composition of their team.

The appointees are expected to seek and obtain funding from European national agencies or institutions to support the activities of their team.

Candidates applying to become a member of a PIT are expected to have discussed and agreed their participation with the leads of the teams selected by NASA. A letter of endorsement from the PIT lead is required to be submitted with the proposal.

Candidates will have to describe in the proposals their expertise relevant to the *Roman* science objectives. Proposals must indicate if the application is for the CCS committees, the CCPP or otherwise which PIT is being applied to, and should describe the proposed contribution to the responsibilities and tasks defined above, and the relevance of their contribution to the mission. Candidates will have to declare their time commitment to the *Roman* activities and their willingness to take up specific and time-limited tasks as assigned by PITs/CCPP or CCS

committees. The proposals should also include the explicit endorsement and support from their institutes.

The successful candidates will be appointed by the ESA Director of Science. The appointment is *ad personam*. The selected scientists will be required to submit short annual reports of their *Roman* related activities to the ESA Project Scientist.

3 LETTER OF INTENT

Prospective proposers must submit a mandatory Letter of Intent (LoI) by the deadline indicated in Table 1. Proposals not preceded by a corresponding LoI will not be considered. LoIs are limited in length to 2 A4 pages (minimum font size 11 pt), and their purpose is to allow ESA to perform an initial assessment of the expected range of proposals, and to prepare for the evaluation process.

Letters of intent must be structured to contain the following information:

- Name and contact information of proposer;
- Short description of the proposer's expertise and its relevance to the *Roman* space telescope.

4 CONTENTS OF THE PROPOSAL

Proposals submitted in response to the AO are limited in length to 9 A4 pages (minimum font size 11 pt), and must contain the following information:

- A cover letter stating the proposer's name and affiliation and explicitly mentioning the proposer's title, position, institute, address, telephone number and e-mail address, and if the application is for the CCS committees, CCPP, or PIT, and if the latter, which PIT is being applied to (max. 1 page);
- A brief curriculum vitae also including the 10 most relevant publications (max. 2 pages);
- A description of the scientific expertise relevant to the applicable CCS committee, PIT, or CCPP objectives (max. 2 pages);
- A description of the scientific areas of interest and a statement concerning the time availability (max. 3 pages);
- A Letter of Endorsement, signed by the proposer's Head of Institute, with the endorsement to the proposer's application and the explicit support with respect to the proposed activities and the availability of facilities and infrastructure, as needed by the proposer for the accomplishment of the aforementioned tasks (max. 1 page).
- For an application to be a member of a PIT, a Letter of Endorsement, signed by the lead scientist of the proposed PIT, with the endorsement of the proposer's application to be a member of their team (max. 1 additional page).

5 EVALUATION CRITERIA

The following criteria will be used (in no particular order) in assessing and evaluating individual proposals:

- Candidate's competence and experience relative to the *Roman* mission objectives.
- The level to which the proposal identifies specific competences and addresses the contribution to the tasks described in Section 2.
- Adequacy of the time that the candidate intends to devote to activities related to the *Roman* scientist role.
- Adequacy of resources available to the candidate to carry out activities related to the *Roman* scientist role.

6 LETTERS OF INTENT AND PROPOSAL SUBMISSION

Letters of Intent and Proposals shall be submitted electronically in PDF format (file size cannot exceed 5 MB) according to the instructions on the following webpage:

<http://cosmos.esa.int/web/Roman-call-2023>

and according to the deadlines listed in Table 1.

Proposers will receive confirmation upon successful receipt of their Letters of Intent and of their Proposals.

7 ACRONYMS

AO	Announcement of Opportunity
CCPP	Coronagraph Community Participation Programme
CCS	Core Community Survey
CI	Coronagraph Instrument
ESA	European Space Agency
LoI	Letter of Intent
PIT	Project Infrastructure Teams
WFI	Wide Field Instrument

Further queries should be addressed to:

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