Application Form (v2025)

ESO Fellowship

Research Plan

Please fill out the form, save it as a PDF file and submit it via the ESO recruitment portal. The font to be used to fill the form must be a clearly readable font (e.g. Arial, Calibri, Times New Roman etc.) and the size 11pt. **Greyed out texts are indications on how to fill up this document and should be removed from the submitted version.**

Applicants must be aware of the timeline for the selection process, as mentioned in the call for applications and available [at the following pages](https://www.eso.org/sci/activities/FeSt-overview/fellowship_programme.html).

By submitting this application, you agree that your material will be reviewed by ESO astronomers and senior ESO Fellows.

Section 1 – Research background

*Tick all relevant categories.*

[\_] Observations [\_] Instrumentation [\_] Theory [\_] Simulation/computation [\_] Data science

Section 2 – Research Interest(s)

*The following list indicates categories and keywords for research topic in the form:*

*CATEGORY: keyword1, keyword2…*

*Please remove all categories and keywords that do not apply to your proposed research activity.*

* **COSMOLOGY:** cosmological parameters, dark energy, dark matter, gravitational lensing, gravitational waves, early Universe
* **LARGE SCALE STRUCTURES**: proto-clusters, galaxy clusters, galaxy groups, Cosmic Web, filaments, inter-galactic medium (IGM), intra-cluster medium (ICM), intra-group medium (IGrM), circum-galactic medium (CGM), gas cavities and bubbles, ICM metallicity, CGM metallicity
* **GALAXIES**: star formation, quenching, morphology, kinematics and dynamics, environment, halos, merger, high redshift, luminosity and mass functions, dust, stellar content, gas content
* **AGN**: quasars, feedback, gas-feedback interplay, galaxy-black hole coevolution, accretion, black hole mass, variability
* **INTERSTELLAR MEDIUM**: AGN jets and outflows, stellar jets and outflows, kinematics, abundances, dust, molecular phase, planetary nebulae, supernovae
* **THE MILKY WAY:** centre, bulge, disk**,** halo, black hole**,** globular clusters, open clusters and associations, star formation, abundances, kinematics and dynamics, formation and evolution
* **STARS**: abundances, atmospheres, binary, massive stars, luminosity function, mass loss, distances, kinematics and dynamics, circumstellar matter, gamma-ray burst, supernovae
* **PLANETARY SYSTEMS**: protoplanetary disks, planet-disk interactions, transit, radial velocity, direct imaging, atmospheres, gaseous planets, terrestrial planets, star-planet interaction
* **THE SOLAR SYSTEM:** abundances, activity, atmosphere, photosphere, helioseismology
* **PHYSICAL DATA AND PROCESSES:** habitability and astrobiology, asteroseismology, astrochemistry, astro-particle physics, black hole physics, neutrinos, radiative transfer

Section 3 – Research Plan

**The research plan should be a maximum of three pages, including figures. This page limit applies only to Section 3 and does not include Sections 1 and 2. References may be listed at the end of the research plan and are not counted toward the page limit.**

**Specific guidelines for the ESO Europe Fellowship Selection process**

*The Research Plan will be the only document evaluated during the first selection round (see [this link](https://www.eso.org/sci/activities/fellowships-and-studentships/FeSt-overview/fellowship_programme/application_guidelines.html) for more details). It must be entirely self-contained: do not reference your motivation letter or early career track record. All relevant information must be included in this document.*

**Specific guidelines for the ESO Chile Fellowship Selection process**

*The Research Plan will be evaluated together with motivation letter, Academic & Research track record and reference letters during the first selection round.*

### *Guidance for Preparing Your Research Plan*

*Your proposal will be evaluated based on the following criteria:*

1. *Scientific excellence*
2. *Novelty and creativity*
3. *Reliability and feasibility of the plan*

*Be aware that your proposal must be understandable to both experts and non-specialists in your field. Avoid jargon where possible and clearly explain key concepts.*

#### 1. Scientific Excellence

* *Provide a clear, well-structured introduction to your research area. Even if your project focuses on a narrow topic, show that you understand the broader scientific context and how your work fits within it.*
* *Define the key scientific questions and explain why they matter. Describe the methods you will use to address them, and ensure your reasoning is clear and logically connected.*
* *Communicate scientific maturity and independence. The ESO Fellowship is intended for candidates ready to lead their own research.*
* ***Demonstrate ownership of your ideas.*** *Use your previous research to show how it led to your current proposal—why it makes sense for you to pursue this direction, and what makes it promising or meaningful. If the project represents a shift from your past work, explain why: What motivates the change? Why is this new direction more exciting or valuable?*

#### 2. Novelty and Creativity

* *Show your ability to think originally. Highlight innovative ideas, new methodologies, or fresh perspectives—even in well-established research areas. We want to see your scientific voice: what questions drive your curiosity, how you think about them, and what makes your approach unique.*
* *If your project addresses well-known problems, clarify how your approach offers new insight, tools, or framing. Novelty can come from methodology, perspective, or connections across disciplines.*

#### 3. Reliability and Feasibility

* *The ESO Fellowship lasts 3 years (Garching) or up to 4 years (Chile). Your project should be ambitious, but realistic within this timeframe.*
* *Justify the availability of any datasets or observations you plan to use. If the data are not yet in hand, clearly explain how and when you expect to obtain them****.*** *While mentioning the intention to submit future proposals demonstrates proactivity, the research plan should not rely solely on this.*
* *If your project involves simulations or large-scale computation, remember that ESO is not a dedicated computing centre. Specify what computational resources you have access to and how they will support your work.*
* *Anticipate risks. Provide a credible contingency plan to show that you can adapt to challenges and maintain research momentum.*

**The selection committee insists on the compliance of the number of words/pages allowed for this document. Research projects longer than 3 pages will be cut at the limit. Projects with a font size smaller than 11 will not be considered.**