Writing a grant proposal

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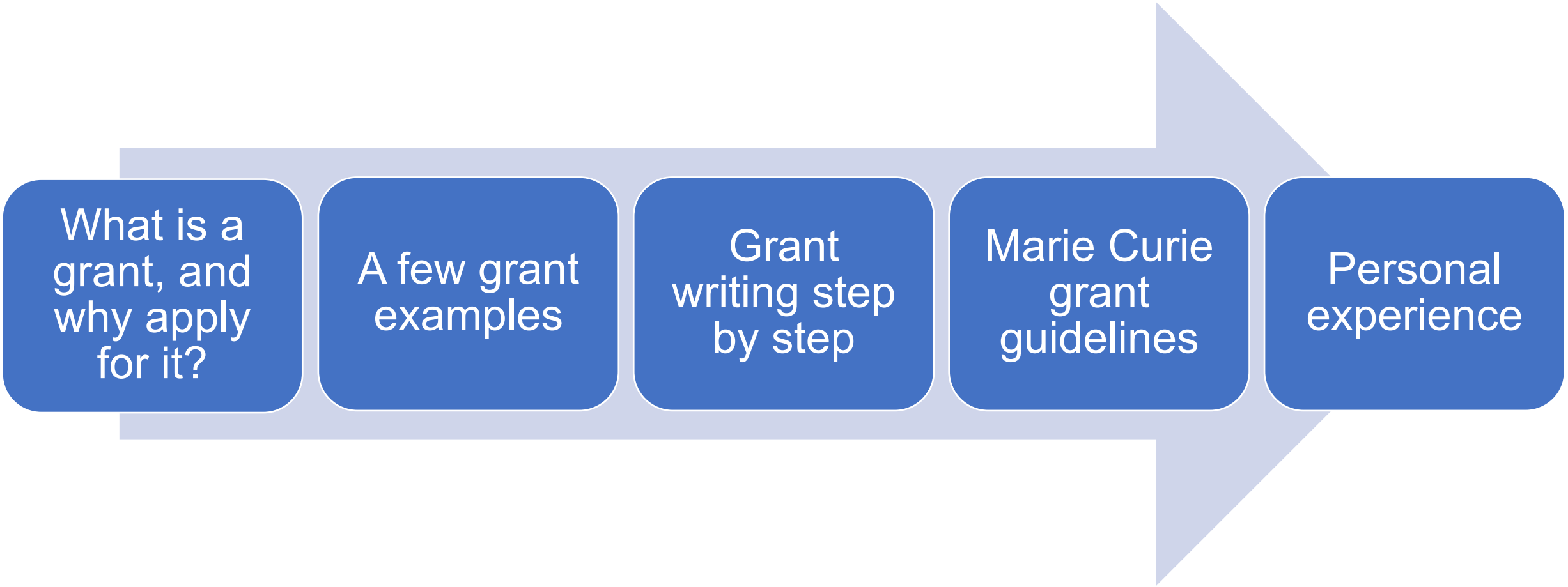
LISA CONSORTIUM

MAX PLANCK INSTITUTE FOR GRAVITATIONAL PHYSICS (ALBERT EINSTEIN INSTITUTE)

LES Houches – LISA school - 15 of October 2025

Talk outlook



What is a grant?

- Competitive funding awarded by governments, foundations, or institutions
- Supports research, training, or specific projects
- Once you get it, the money is yours

, And why apply for it?

💰 Covers research, travel, or living expenses

🌍 Enhances academic & professional profile

🤝 Creates opportunities for networking & collaboration

🚀 Strengthens independence and career progression

A couple of grant examples

✓🇪🇺 Marie Skłodowska-Curie Actions (MSCA) – Postdoctoral Fellowships
https://marie-sklodowska-curie-actions.ec.europa.eu/actions/postdoctoral-fellowships

✓🇩🇪 DAAD PRIME (Postdoctoral Researchers International Mobility Experience)
https://www.daad.de/en/studying-in-germany/scholarships/daad-funding-programmes/prime/

- ESA Fellowship
https://www.esa.int/About_Us/Careers_at_ESA/Post_docs_Research_Fellowship

🇩🇪 Alexander von Humboldt Foundation – Research Fellowships
https://www.humboldt-foundation.de/en/apply/sponsorship-programmes/humboldt-research-fellowship

🇨🇭 Swiss Government Excellence Scholarships
https://www.sbfi.admin.ch/en/swiss-government-excellence-scholarships

🇩🇪 DAAD PRIME (Postdoctoral Researchers International Mobility Experience)

- **Duration:** Typically 12 + 6 months
- **Requirements:** PhD holders; must propose a research project at a host institution for 12 months (in the EU or outside the EU), with a compulsory 6 months in a German host institution
- **Timeline:** call closes end of August

- **Mostly relevant for scientists who seek a long-term perspective in German universities**
  - ➢ 10-page proposal with similar content to MSCA (but no strict template !)
  - ➢ Require an invitation letter from the host and a detailed reference letter from the PhD supervisor

ESA Fellowship

- **Duration**: 2 years (extension to 3rd year possible)
- **Eligibility**: PhD completed or near completion; preference for candidates within ~5 years post-PhD
- **Nationality**: Applicants must be nationals of ESA Member States
- **Research area:** Must propose work relevant to ESA's space science, technology or applications programs
- **Proposal:** Up to 4 pages (figures, tables, references included)
  - ➢Fellows perform research autonomously; no formal supervision required
  - ➢Up to 20 % of time may be used for ESA science support tasks (e.g. archives, operations)

🇪🇺 Marie Skłodowska-Curie Actions (MSCA) – Postdoctoral Fellowships

- **Duration:** 2 years (Standard Postdoctoral Fellowships); 3 years for Global Fellowships.
- **Requirements:** PhD completed within the last 8 years; mobility rule applies (cannot have lived/worked >12 months in host country)
- Open to **all research fields**.
- **Time-line:** Call open in April and close in September

Grants writing: what you are asked to write about

- Quality and relevance of the project's research
- Personal preparatory work (professional experience, competences/skills)
- Detailed research plan: strategy, methods, risks and tools (Gannt chart)
- Quality of the host institutions
- Impact of the proposed project
- Dissemination and exploitation plan, including communication activities

Always keep in mind the bigger picture!

Break your project into key components: objectives, methodology, and outcomes

Be able to explain each part clearly, even to non-specialists

Explain the importance of your research and the challenges it addresses

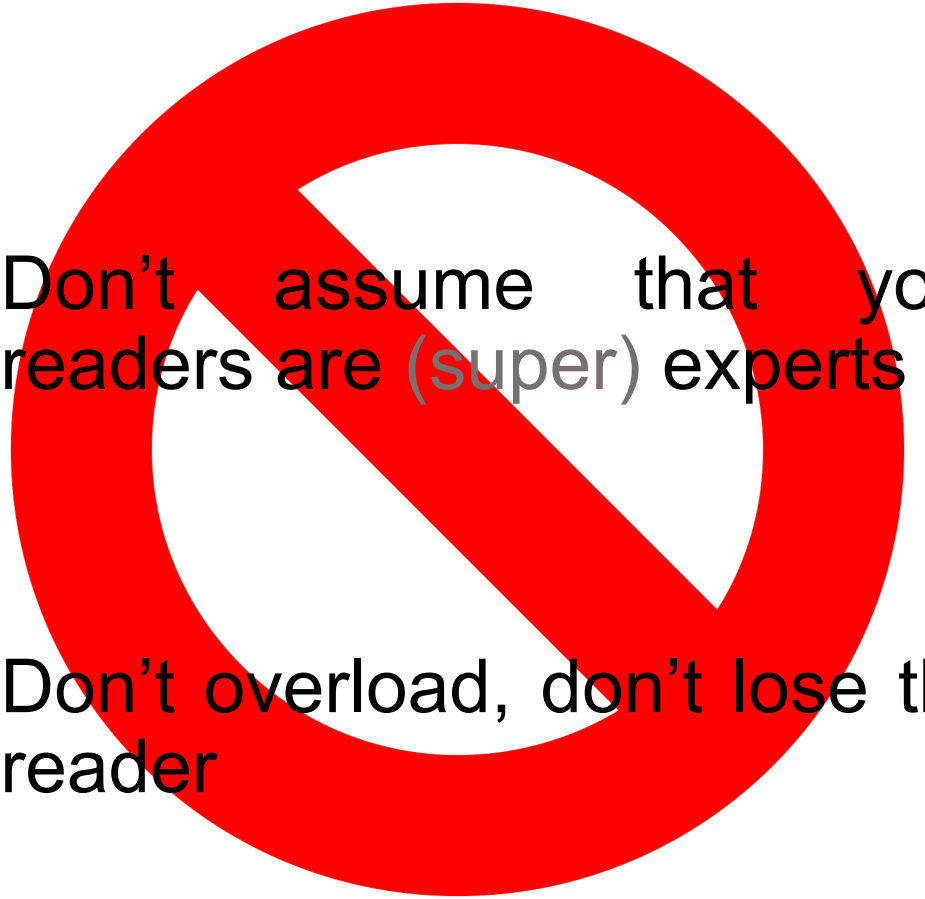
Show how your project fills a current gap

How you will push it forward

Connect to societal, scientific, or technological needs

DO!

- ❑Read the requirements on the template very carefully
- ❑Use clear headings, concise sentences and bold phrases
- ❑Incorporate visual aids (figures, diagrams) where they improve the readability
- ❑Avoid heavy jargon; remember, reviewers are interdisciplinary



- Don’t assume that your readers are (super) experts
- Don’t overload, don’t lose the reader

Quality and relevance of the project's research

- 👉 Context and background
- 👉 Current knowledge & limitations
- 👉 Proposed Research: Objectives, methods, novelty.

🔑 **Key principle:**

The first 2 pages serve as the "executive summary" of your proposal. Reviewers should be able to:

1. Understand the entire project at a glance.
2. Recognise the importance, originality, and feasibility immediately.
3. Be motivated to explore the details further.

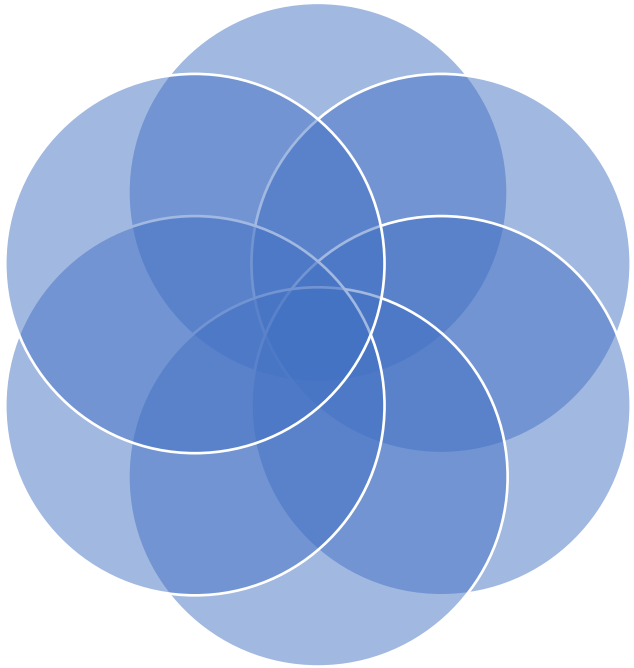
Personal preparatory work

Demonstrate that your background *uniquely* qualifies you to deliver the proposed project

Personal preparatory work

Briefly summarise your academic path (BSc, MSc, PhD, Postdoc)

Outreach or science communication (talks, media, public events)



Highlight how each step contributed to your expertise in the project's area

Roles showing leadership: chairing working groups, organising sessions, mentoring…

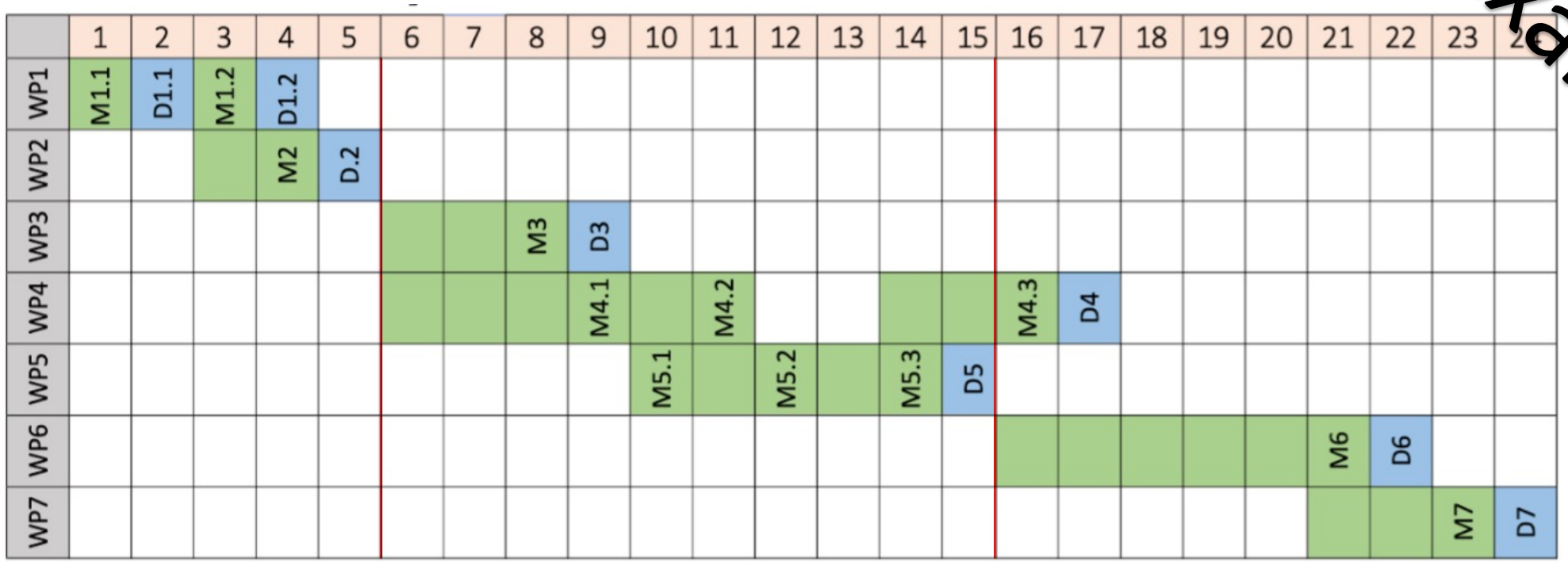
List major results or innovations and link them to your publications:

- *"I was the pioneer of using* that *technique for* that *problem (Paper: X et al., PRD 2022)"*

Awards, prizes, or fellowships

Detailed research plan: strategy, methods, risks and tools (Gannt chart)

Example !

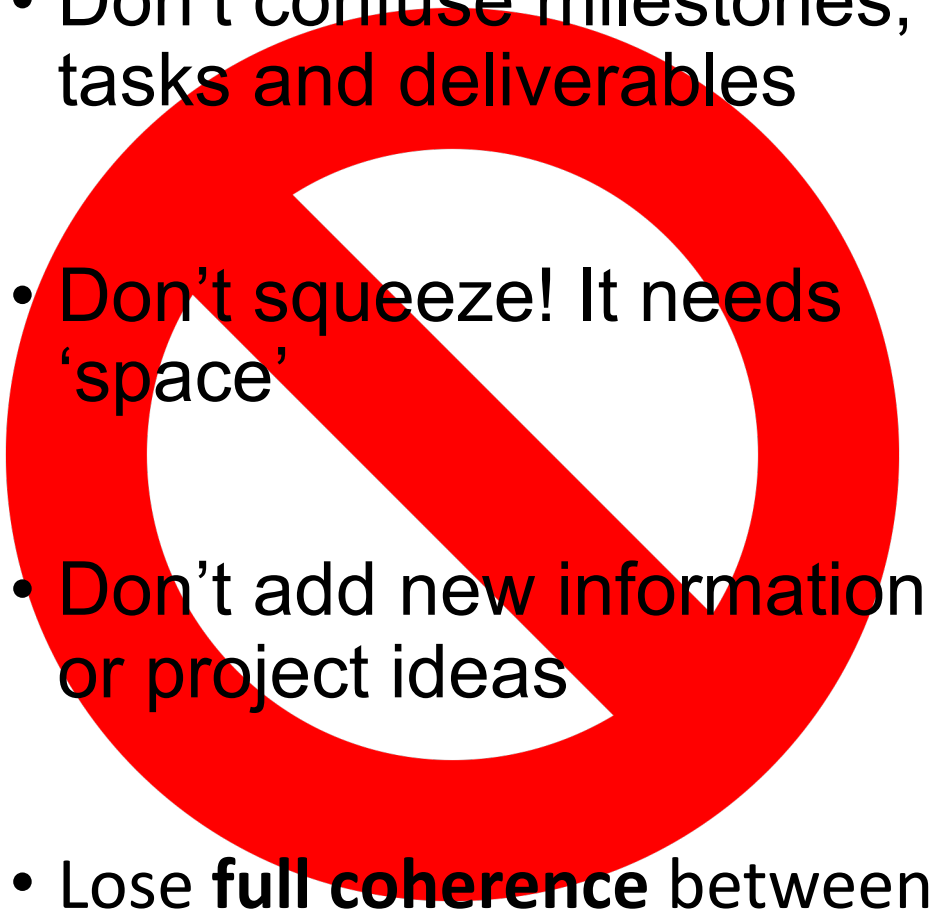


Each work package (WP) has clearly defined intermediate milestones (M) and deliverables (D). The timeline for each WP has been evaluated based on the candidate's experience to ensure realistic planning. The numbers indicate months from the project start

Do!

- ❑ **Define your objectives clearly** and link them directly to the corresponding **Work Packages**
- ❑ Ensure your **Gantt Chart is clear and easy to read**
- ❑ **Develop a comprehensive training, supervision, and knowledge transfer plan**
- ❑ Report **risks and corresponding mitigation plans**

Do not!



- Don’t confuse milestones, tasks and deliverables
- Don’t squeeze! It needs ‘space’
- Don’t add new information or project ideas
- Lose **full coherence** between all parts of your proposal

Impact of the proposed project

Don’t just state it will have an impact! Use **specific examples** rather than general statements

🔑 Key points:

- Demonstrate **added value** for your career, science, and society
- Focus on **concrete, measurable outcomes**—avoid vague statements.
- Show **how the fellowship supports your long-term career goals**

Quality of the host institutions

🧠 **Unique Expertise** – [Host Name]'s team excels in [field/techniques]

🏛️ **State-of-the-Art Facilities** – [Labs, instruments, or computational resources]

📚 **Proven Track Record** – Key publications ([example papers]) & successful alumni ([names])

🤝 **Mentorship & Know-How** – Direct guidance to learn critical skills for my project

Dissemination and exploitation plan, including communication activities

Conferences, workshops, and schools

List events where you will **participate and present your research**.
Include **dates, locations, and type of participation** (talk, poster, etc.)

Outreach activities

Mention events such as public lectures, participation in open days…

Organizing events

Conferences, meetings, and workshops

Reminder: be as precise as possible —**exact timeframes and locations**— and ensure proper integration into the Gantt chart!

Practical guidelines for MSCA

- Research area: Find a host institution (European MSCA) or two hosts (Global MSCA)

- Contact Point: In addition to the host institution, each country has a *national contact point* that offers guidance and assistance for researchers
  - It helps in reviewing your application, but you need to send it quite well in advance
  - It often organises lectures/trainings on MSCA with Q&A

- Working condition: Full-time employment contract

Personal experience

I would have never thought I could win — so give it a try!

I received valuable feedback from people familiar with MSCA projects

I had friends willing to help (and I consider that a big plus)

I chose an interdisciplinary project that built on my existing skills

I was very specific and methodical — content matters, but so do structure and clarity (e.g wording/ formulation of concept)

Personal experience

Reviewers are often not from your exact field

I followed each section carefully and strictly adhered to the template.

I kept the document consistent and homogeneous across all parts

Remember: reviewers use a detailed evaluation grid for each section

What does the MSCA template look like?

PART B TEMPLATE

---------- Start of page count (max 10 pages) ----------

[This document is tagged. Do not delete the tags; they are needed for processing.] #@APP-FORM-HEMSCAPF@#

Part B-1

1. Excellence #@REL-EVA-RE@#

1.1 Quality and pertinence of the project's research and innovation objectives (and the extent to which they are ambitious, and go beyond the state of the art)

Insert here text for your proposal

1.2 Soundness of the proposed methodology (including interdisciplinary approaches, consideration of the gender dimension and other diversity aspects if relevant for the research project, and the quality of open science practices).

Insert here text for your proposal

1.3 Quality of the supervision, training and of the two-way transfer of knowledge between the researcher and the host

Insert here text for your proposal

1.4 Quality and appropriateness of the researcher's professional experience, competences and skills

Insert here text for your proposal

2. Impact #@IMP-ACT-IA@#

2.1 Credibility of the measures to enhance the career perspectives and employability of the researcher and contribution to his/her skills development

Insert here text for your proposal

2.2 Suitability and quality of the measures to maximise expected outcomes and impacts, as set out in the dissemination and exploitation plan, including communication activities #@COM-DIS-VIS-CDV@#

Insert here text for your proposal

2.3. The magnitude and importance of the project's contribution to the expected scientific, societal and economic impacts

Insert here text for your proposal

#§COM-DIS-VIS-CDV§# #§IMP-ACT-IA§#

3. Quality and Efficiency of the Implementation #@QUA-LIT-QL@# #@WRK-PLA-WP@# #@CON-SOR-CS@# #@PRJ-MGT-PM@#

3.1 Quality and effectiveness of the work plan, assessment of risks and appropriateness of the effort assigned to work packages

Insert here text for your proposal

3.2 Quality and capacity of the host institutions and participating organisations, including hosting arrangements

Insert here text for your proposal

#§CON-SOR-CS§# #§PRJ-MGT-PM§# #§QUA-LIT-QL§# #§WRK-PLA-WP§#

---------- End of page count (max 10 pages) ----------

Part B-2

(*No overall page limit applied*)

4. CV of the researcher

Insert here text for your proposal

5. Capacity of the Participating Organisation(s)

5.1 Template table: *Overview of Participating Organisations*

Organisation role	PIC	Legal Entity Short Name	Academic organisation (Y/N)	Country	Name of Supervisor
Beneficiary					
Associated partner linked to a beneficiary (if applicable)					
Associated partner for outgoing phase (mandatory for GF)					
Associated partner for secondment (optional)					
Associated partner for non-academic placement (optional)					
Other: _____					

5.2 Template table: *Capacity of the Participating Organisations*

Choose one of: *? Beneficiary (compulsory)* *? Associated partner linked to a beneficiary (if applicable)* *? Associated partner for outgoing phase (compulsory for GF only)* *? Associated partner for secondment (optional)* *? Associated partner for non-academic placement (optional)*	
[Full name + Legal Entity Short Name + Country]	
General description	
Role and profile of supervisor	

Key research facilities, Infrastructure and Equipment	
Previous and current involvement in EU-funded research and training programmes/actions/projects	

6. Additional ethics information

Insert here text for your proposal
(NB: Only if you have additional information that could not be included in the ethics self-assessment)

7. Additional information on security screening

Insert here text for your proposal
(NB: Only if you answered yes to one of the questions in the security issues table, with the exception of "Does this activity involved HE associated and/or third countries?")

8. Environmental considerations in light of the MSCA Green Charter

Insert here text for your proposal

9. Required for Global Fellowships only: Letter(s) of commitment from associated partners (hosting the of outgoing phase)

Insert here text for your proposal

Now is your turn!

1. Excellence #@REL-EVA-RE@#

1.1 Quality and pertinence of the project's research and innovation objectives (and the extent to which they are ambitious, and go beyond the state of the art)

Insert here text for your proposal

1.2 Soundness of the proposed methodology (including interdisciplinary approaches, consideration of the gender dimension and other diversity aspects if relevant for the research project, and the quality of open science practices).

Insert here text for your proposal

How to structure it

1. Proposed Research:
   - Goal of your research: objectives and innovation (be creative!)

2. Context and background

3. Current knowledge & limitations

4. Methods you intend to use:
   - e.g. MCMC/ lab-experiments/ codes/ new theory developments

5. Impact:
   - What is the novelty of your research, and which impact do you foresee

Instructions

1. Excellence #@REL-EVA-RE@#

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Insert here text for your proposal

1.2 Soundness of the proposed methodology (including interdisciplinary approaches, consideration of the gender dimension and other diversity aspects if relevant for the research project, and the quality of open science practices).

Insert here text for your proposal

~40 minutes

- Divide into groups of two/three people based on expertise (e.g., data analysis, theoretical physics, experiments, etc.)
- Each group writes its proposal

~ 20 minutes

- Exchange proposals between groups for peer review. Score each subpoint (1-5) from 0 to 10.