

**European Research Council
Convocatorias WP 2024**

**Webinar II:
Cómo preparar una propuesta
ERC- Consolidator Grant 2024**

**11 de octubre de 2023
Estefanía Muñoz
National Contact Point ERC
FECYT**

Webinar II – cómo preparar una propuesta ERC-COG-2024

- Los participantes están silenciados.
- Las preguntas se formulan por: www.menti.com code **6174 0839**
- Las presentaciones se colgarán en: <https://www.horizonteeuropa.es/webinars-erc-consolidator-grant-2024>
- El seminario se está grabando y quedará accesible a través del enlace anterior.
- La plataforma TEAMS lanzará una encuesta de satisfacción. Os agradecemos mucho que la contestéis porque nos ayuda a mejorar.
- Uso de las siglas PI (Principal Investigator) y el lenguaje inclusivo
Aun cuando determinados sustantivos sean referenciados en género masculino, este debe entenderse como género gramatical no marcado e inclusivo.
- Descargo de responsabilidad: esta presentación se basa en aprendizajes personales y no constituye una fuente directa ni del ERC ni de la CE.



Webinar II – cómo preparar una propuesta ERC-COG-2024

- **La lógica Why-What-How**
- **Plantillas**
- **Criterios de evaluación dentro de la lógica del Why-What-How**
- **Estructura Part B1 & Part B2 y aclaración de los conceptos más importantes**
- **Algunos ejemplos**
- **Evaluation Summary Reports**
- **El Budget**
- **Consideraciones finales**



European Research Council

Established by the European Commission

INDIVIDUAL RESEARCHERS
FROM ALL OVER THE WORLD

LONG TERM GRANTS

TO HIGH-RISK/HIGH-GAIN PIONEERING PROJECTS
IN ANY FIELD OF FRONTIER RESEARCH



Life Sciences



Physical Sciences and Engineering



Social Sciences and Humanities

WHY – WHAT - HOW



<https://images.squarespace-cdn.com/>



Each proposal page:

header [PI's last name, acronym of the proposal, and the reference to the respective proposal section (Part B1 or Part B2)]

The following parameters **must** be respected for the layout:

| Page Format | Font Type | Font Size | Line Spacing | Margins |
|-------------|-------------------------------------|-------------|--------------|-------------------------|
| A4 | Times New Roman Arial or similar | At least 11 | Single | 2 cm side 1.5 bottom |

Page limits will be strictly applied!

The ERC proposal

Intrigue (part B1)
Convince (part B2)
Inspire (Parts B1+B2+ interview)



- Important challenges
- Ambitious objectives beyond SoA (novel concept or approach)
- Feasibility of outlined scientific approach
- Appropriate research methodology and working arrangements
- Timescales and resources and PI commitment

ERC 2024 – individual Schemes - Structure of the proposal

One deadline | 2 steps evaluation process

The ERC full proposal = part B1 + part B2 + Part A*

Part B1 - pdf

Cover Page and
summary (1p)
Extended Synopsis (5p)
Curriculum vitae +
Track-record (4p)

NEW

Evaluated in Step 1

Part B2 - pdf

(14p)

Sa: SoA & objectives

Sb: Methodology

Appendix. Funding ID

***NOT evaluated in Step
1 (only in Step 2)***

Part A – online forms

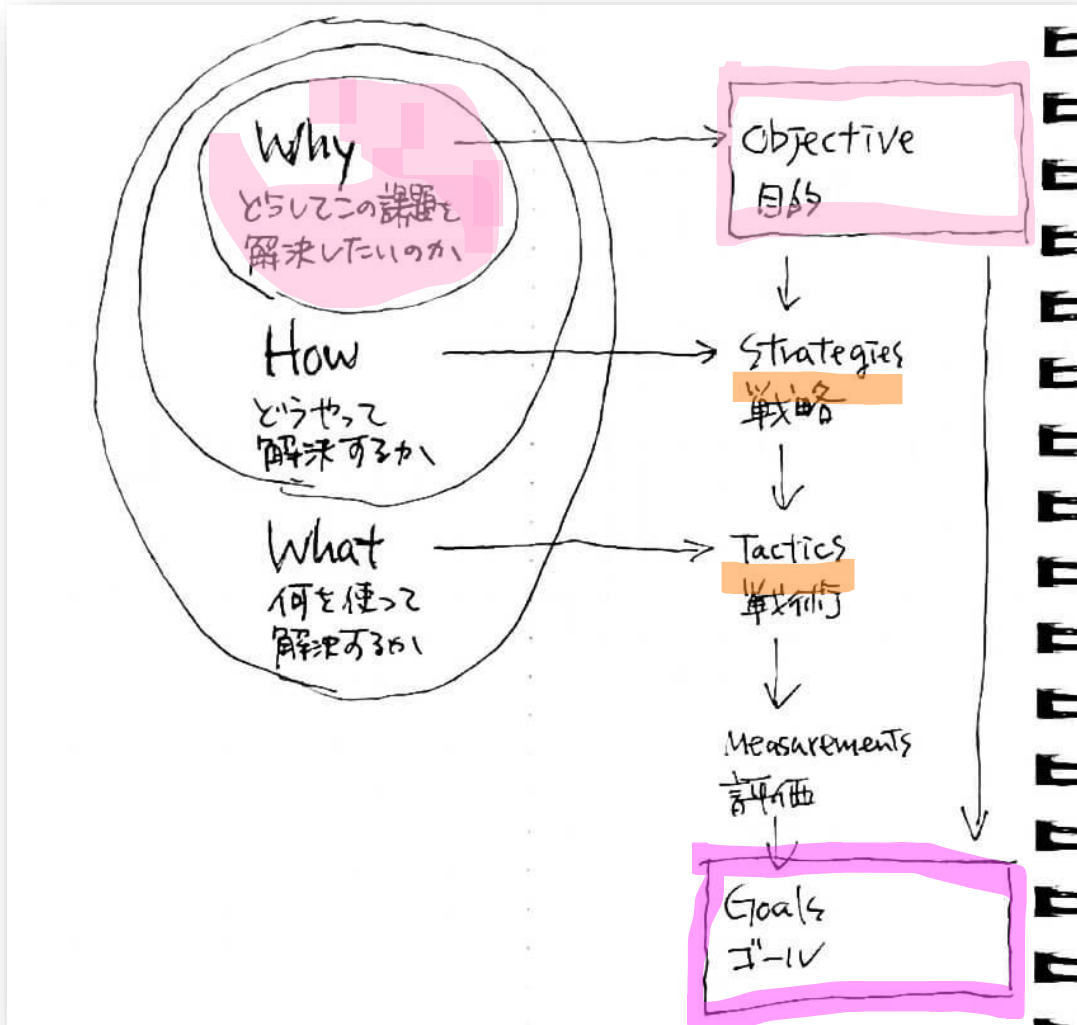
A1 General Information
A2 Participants
A3 Budget* table + description
(8000c)
A4 Ethics and security
A5 Other questions
% Time commitment*
Excluded Reviewers (up to 3)

Annexes

HI support letter
PhD certificate
Ethics and security issues
Eligibility window

ERC 2024 – Evaluation criteria

(B1)



<https://makitani.com/2022/12/why-how-what.html>

Research Project

- Ground-breaking nature, ambition and feasibility

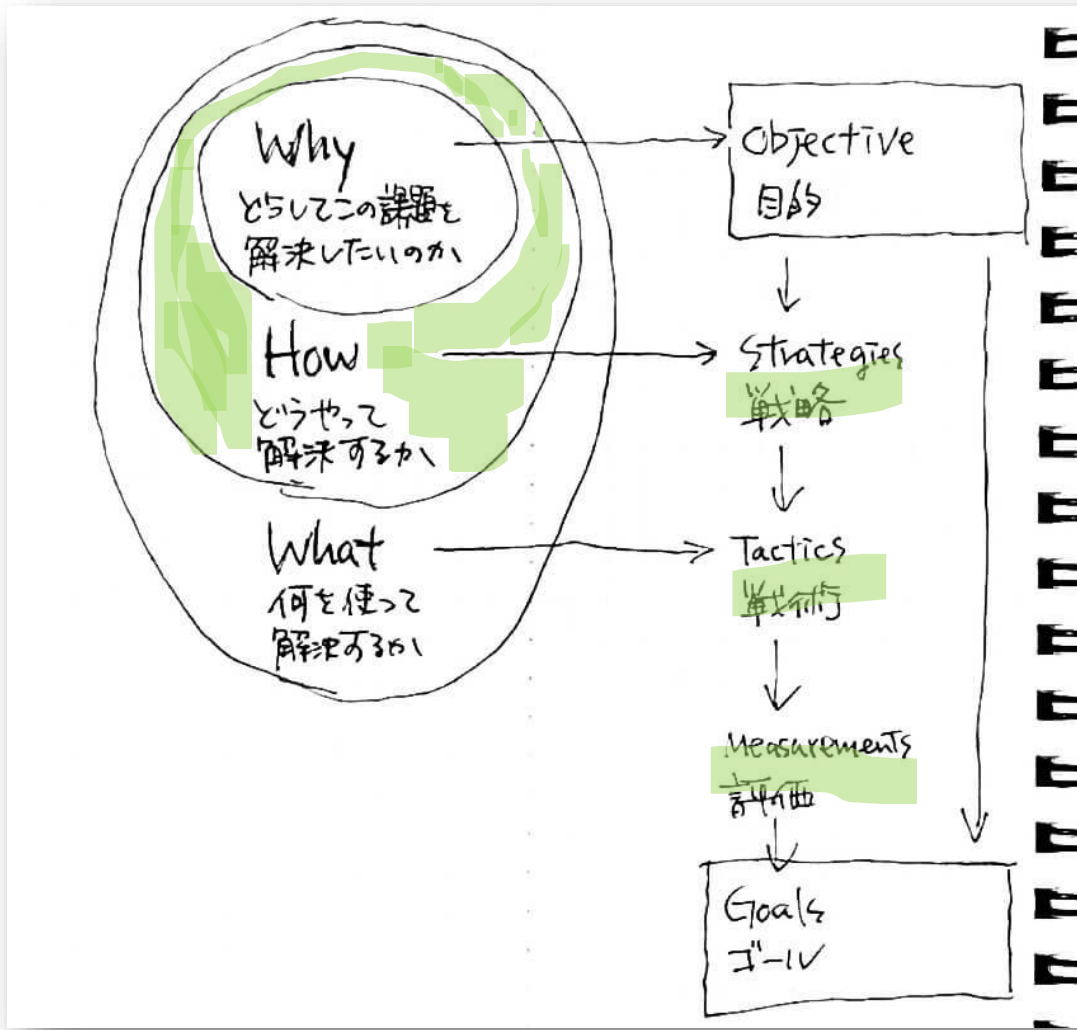
Ground-breaking nature and potential impact of the research project (B1+B2)

- does the proposed research address important challenges?
- are the objectives ambitious and beyond the state of the art? e.g. novel concepts and approaches or development between or across disciplines?

Scientific Approach

- is the outlined scientific approach feasible ... ground-breaking nature and ambition of the proposed research? (B1)

ERC 2024 – Evaluation criteria



<https://makitani.com/2022/12/why-how-what.html>

Research Project

- Ground-breaking nature, ambition and feasibility

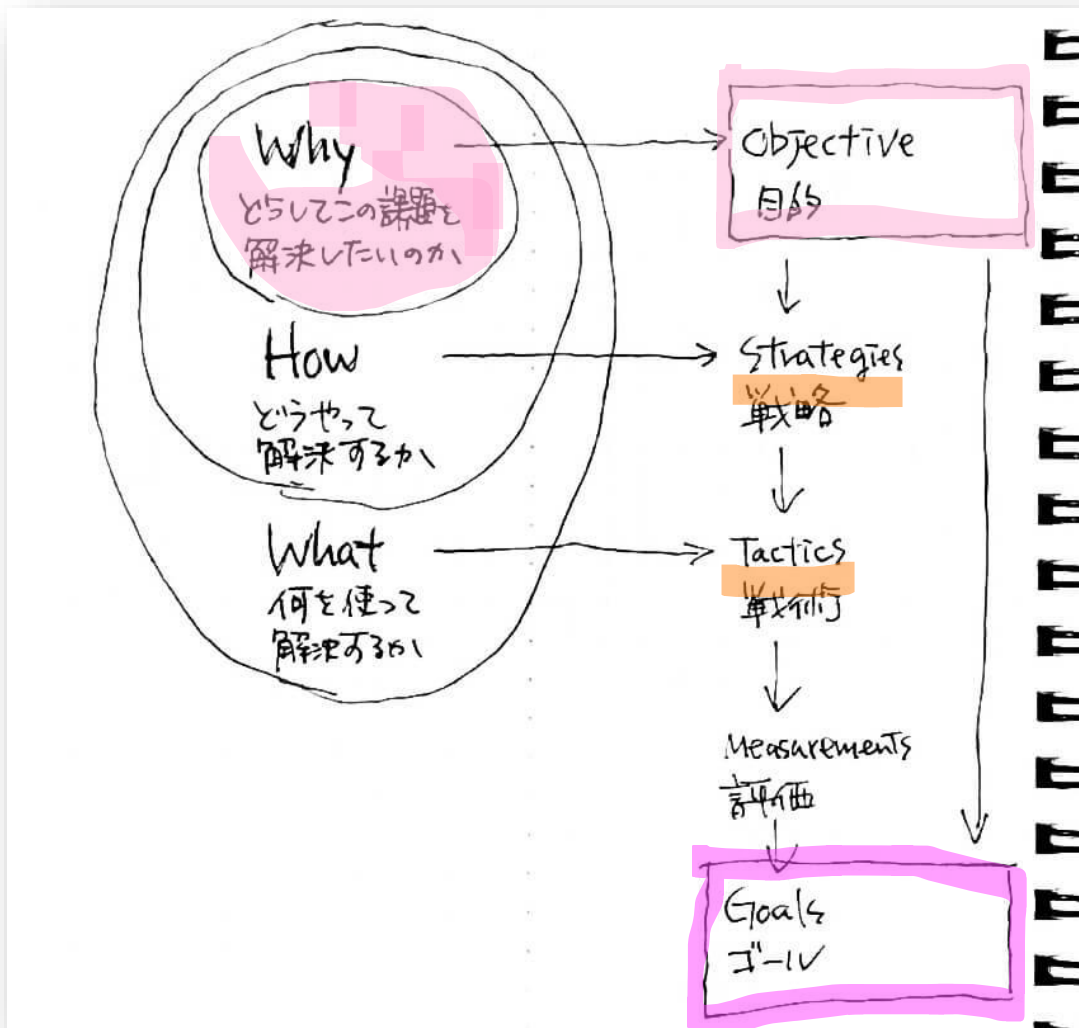
Ground-breaking nature and potential impact of the research project (B1+B2)

- does the proposed research address important challenges?
- are the objectives ambitious and beyond the state of the art? e.g. novel concepts and approaches or development between or across disciplines?

Scientific Approach

- is the outlined scientific approach feasible ... ground-breaking nature and ambition of the proposed research? (B1)
- are the proposed research methodology and working arrangements appropriate to achieve the goals of the project? (B2)
- are the proposed timescales, resources and PI commitment adequate and justified? (B2)

ERC 2024 – Evaluation criteria



<https://makitani.com/2022/12/why-how-what.html>

Research Project

- Ground-breaking nature, ambition and feasibility

Ground-breaking nature and potential impact of the research project

Scientific Approach

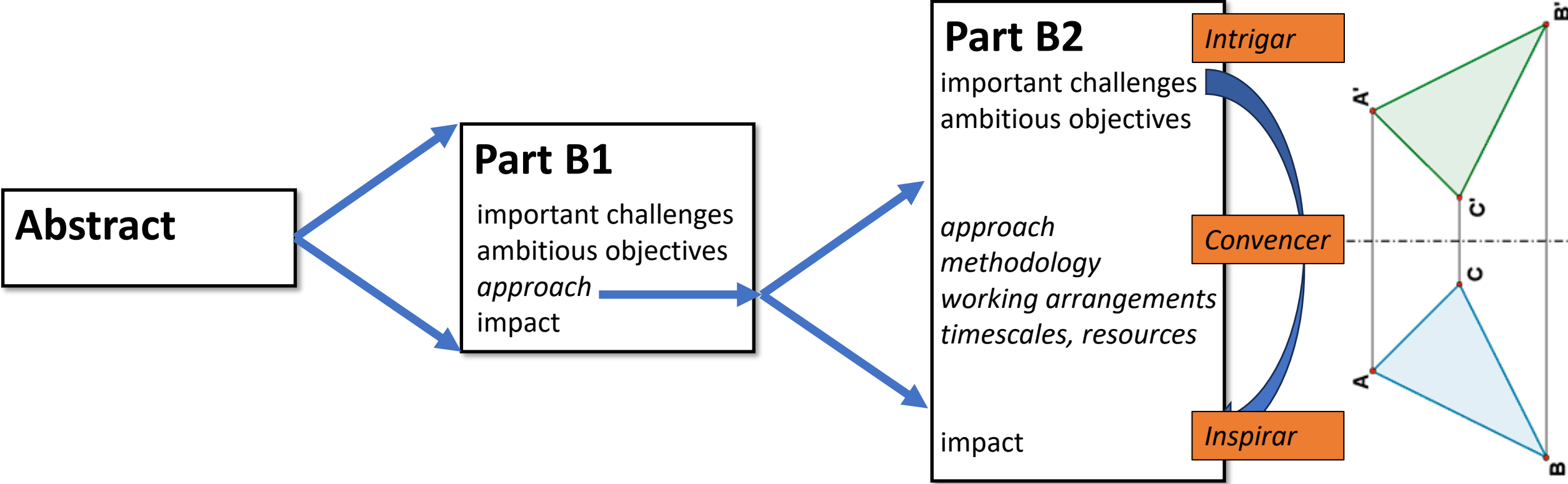
potential impact of the research project



Impacto: efecto que produce tu idea (LT)

Resultado -- compromiso (MT)

ERC 2024 – individual Schemes - Structure of the proposal



ERC COG 2023

Proposal B1a + B2

Abstract

Applicant's last name Part B1 ACRONYM

ERC Consolidator Grant 2024
Research proposal [Part B1]¹
*(Part B1 is evaluated in Step 1 and Step 2,
Part B2 is evaluated in Step 2 only)*

Proposal Full Title
PROPOSAL ACRONYM

Cover Page:
- Name of the Principal Investigator (PI)
- List the other PI's Host Institution for the project
- Proposal duration in months

Please delete all text highlighted in grey in this template.

Proposal summary (identical to the abstract from the online proposal submission forms, section 1).

The abstract (summary) should, at a glance, provide the reader with a clear understanding of the objectives of the research proposal and how they will be achieved. The abstract will be used as the short description of your research proposal in the evaluation process and in communications to contact in particular potential independent external experts and/or to inform the Commission and/or the programme management committees and/or relevant national funding agencies. It must therefore be short and precise and should not contain confidential information.

Please use plain typed text, avoiding formulae and other special characters. The abstract must be written in English. There is a limit of 2000 characters (spaces and line breaks included).

Explain and justify the cross-panel or cross domain nature of your proposal, if a secondary panel is indicated in the online proposal submission forms. There is a limit of 1000 characters, spaces and line breaks included.

Cross-panel box. If a secondary panel is indicated in the A forms.

¹ Instructions for completing Part B1 can be found in the 'Information for Applicants to the Starting and Consolidator Grant 2024 Calls'.

The abstract should provide the reader with a clear understanding of the objectives of the research proposal and how they will be achieved.

- Short and precise.
- Plain typed text, no formulae and other special characters.
- English.
- Up to 2000 characters (spaces and line breaks included).
- No confidential information
- Identical to A forms

Abstract

Applicant's last name

Part B1

ACRONYM

ERC Consolidator Grant 2024
Research proposal [Part B1]¹
(Part B1 is evaluated in Step 1 and Step 2,
Part B2 is evaluated in Step 2 only)

Proposal Full Title
PROPOSAL ACRONYM

Cover Page:

- Name of the Principal Investigator (PI)
- List the other PI's Host Institution for the project
- Proposal duration in months

Please delete all text highlighted in grey in this template.

Proposal summary (identical to the abstract from the online proposal submission forms, section 1).

The abstract (summary) should, at a glance, provide the reader with a clear understanding of the objectives of the research proposal and how they will be achieved. The abstract will be used as the short description of your research proposal in the evaluation process and in communications to contact in particular potential independent external experts and/or to inform the Commission and/or the programme management committees and/or relevant national funding agencies. It must therefore be short and precise and should not contain confidential information.

Please use plain typed text, avoiding formulae and other special characters. The abstract must be written in English. There is a limit of 2000 characters (spaces and line breaks included).

Explain and justify the cross-panel or cross domain nature of your proposal, if a secondary panel is indicated in the online proposal submission forms. There is a limit of 1000 characters, spaces and line breaks included.

Cross-panel box. If a secondary panel is indicated

¹ Instructions for completing Part B1 can be found in the 'Information for Applicants to the Starting and Consolidator Grant 2024 Calls'.

ERC Starting Grant 2022
Research proposal [Part B1]
(Part B1 is evaluated both in Step 1 and Step 2,
Part B2 is evaluated in Step 2 only)

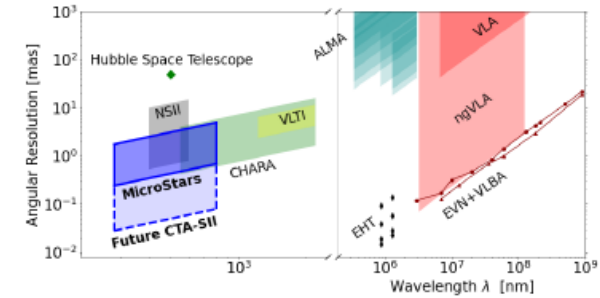
Extreme time and angular resolution in the optical
with Cherenkov telescopes

MicroStars

Name of the Principal Investigator (PI): Tarek Hassan

Name of the PI's host institution for the project: CIEMAT

Proposal duration in months: 60 months



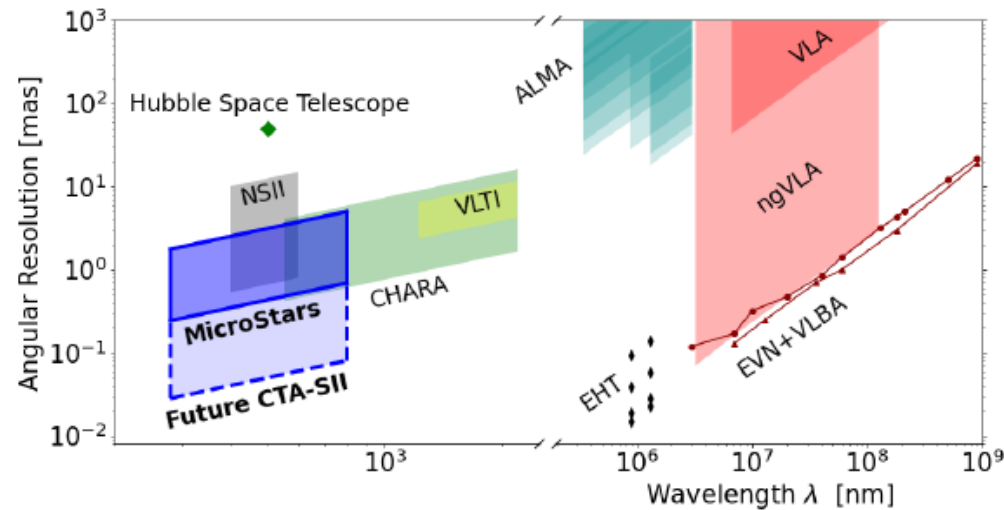
Proposal summary:

The universe in the visible wavelength remains largely unexplored in the sub-second time regime and sub-millisecond scale, primarily due to instrumental limitations. Overcoming these impediments would bring a breakthrough in our knowledge of stellar physics, evolution and modelling by imaging the stars and their surroundings as well as unravel the history of the Solar System.

MicroStars will demonstrate the viability of a cost-effective and novel solution to enhance the capabilities of Imaging Atmospheric Cherenkov Telescopes (IACTs) to perform ultra-fast optical measurements. Such an upgrade allows two novel applications of these telescopes in the visible range: their use as Stellar Intensity Interferometers and as high-time-resolution, fast, high-precision photometers.

MicroStars will allow to expand the limiting time and angular resolution of current optical observatories by at least an order of magnitude. By upgrading the capabilities of next-generation IACTs, MicroStars has the potential of creating a host of scientific breakthroughs, answering fundamental questions regarding stellar physics, magnetic activity and modelling, exoplanet properties and the Solar System planetary formation. The interdisciplinary and field-transforming nature of MicroStars, merging astroparticle physics instrumentation with optical astronomy, will extend the scientific life of current IACT experiments, and greatly expand the scientific impact of the next generation: the Cherenkov Telescope Array. Bringing this proposal to life is only possible with an ambitious funding scheme, willing to finance the major equipment needed, and support a research team with the required multidisciplinary skills to expand the state of the art with novel instrumentation and methodologies.

Abstract



Proposal summary:

The universe in the visible wavelength remains largely unexplored in the **sub-second time regime** and **sub-milliarcsecond scale**, primarily due to instrumental limitations. Overcoming these impediments would bring a breakthrough in our knowledge of **stellar physics, evolution and modelling** by **imaging the stars and their surroundings** as well as **unravel the history of the Solar System**.

MicroStars will demonstrate the viability of a cost-effective and novel solution to enhance the capabilities of **Imaging Atmospheric Cherenkov Telescopes (IACTs)** to perform **ultra-fast optical measurements**. Such an upgrade allows two novel applications of these telescopes in the visible range: their use as **Stellar Intensity Interferometers** and as **high-time-resolution, fast, high-precision photometers**.

MicroStars will allow to expand the limiting time and angular resolution of current optical observatories **by at least an order of magnitude**. By upgrading the capabilities of next-generation IACTs, **MicroStars has the potential of creating a host of scientific breakthroughs**, answering fundamental questions regarding **stellar physics, magnetic activity and modelling, exoplanet properties** and the **Solar System planetary formation**. The interdisciplinary and field-transforming nature of MicroStars, merging astroparticle physics instrumentation with optical astronomy, will extend the scientific life of current IACT experiments, and greatly expand the scientific impact of the next generation: the Cherenkov Telescope Array. Bringing this proposal to life is **only possible with an ambitious funding scheme**, willing to finance the major equipment needed, and support a research team with the required multidisciplinary skills to expand the state of the art with novel instrumentation and methodologies.

Abstract

Summary:

Extreme events often cause local-initial damage to the critical elements of building structures, followed by a cascade of further failures in the rest of the building; a phenomenon known as “progressive collapse”. Current design philosophies are based on giving buildings extensive continuity, so that when a critical element fails its load can be re-distributed among the rest of the structure. *However, in certain situations (e.g. initial failure of several columns) this extensive continuity introduces undesirable effects and actually increases the risk of progressive collapse.*

Segmenting a building into individual units connected only by means of fuses would avoid a failure in one zone propagating to others. While such fuses would provide continuity for normal loads or small local-initial failure, they would “isolate” the different parts of the building when otherwise the forces generated by the initial failure would pull down the rest of the structure. *Although fuse segmentation is probably the only alternative that can fill the gaps in the present design philosophies, so far, no studies have been carried out on the possibility of applying it to buildings.*

Endure’s overall aim is to develop a novel fuse-based segmentation design approach to limit or arrest the propagation of failures in building structures subjected to extreme events.

The project will be multidisciplinary and highly ambitious, and will achieve its overall aim by: 1) Developing a performance-based approach for the design of fuse-segmented buildings; 2) Designing, manufacturing and testing fuses for segmenting buildings; and 3) Implementing fuses in segmented realistic building prototypes and testing and validating the new fuse-based approach in these structures.

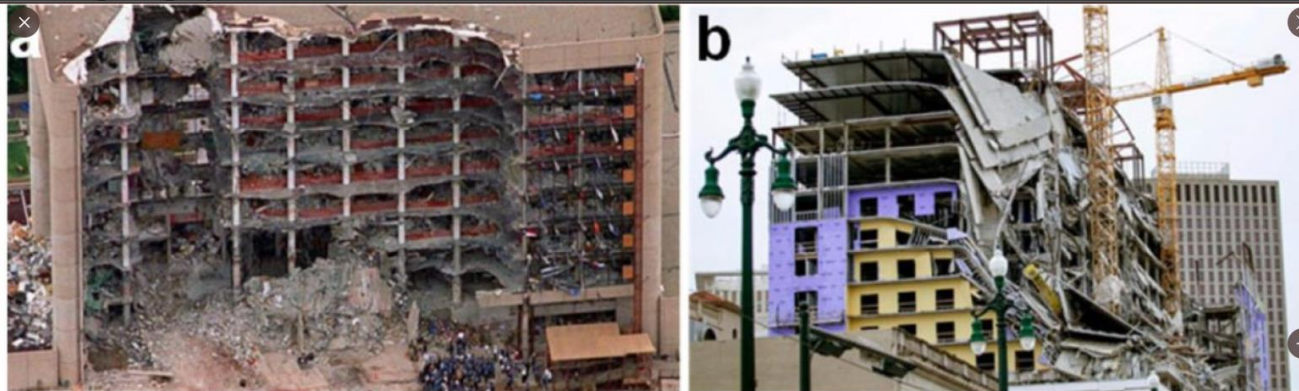
Endure will open up a new research area and design approach, and also deliver novel construction procedures. The project will lead to safer buildings, especially in the case of extreme events with severe consequences for building integrity.

The context of the proposal
(‘what’ and ‘why’)

The aim of the proposal

How we will achieve the aim

The expected outcomes and scientific impact



<https://twitter.com/BldgResilient/status/1432953869995319297/photo/1>

Abstract (A forms)

 **Proposal Submission Forms**
European Research Council Executive Agency

Proposal ID **SEP-210680754** Acronym **AdG-2020**

1 - General information

| | | | |
|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------|
| Topic | ERC-2020-ADG | Type of Action | ERC-ADG |
| Call Identifier | ERC-2020-ADG | Deadline Id | ERC-2020-ADG |
| Acronym | <input type="text" value="AdG-2020"/> | | |
| Proposal title | <input type="text" value="The title should be no longer than 200 characters (with spaces) and should be understandable to the non-specialist in your field."/> | | |
| | <small>Note that for technical reasons, the following characters are not accepted in the Proposal Title and will be removed: < > * &</small> | | |
| Duration in months | <input type="text"/> | | |
| Primary ERC Review Panel* | <input type="text" value="LS6 - Immunity and Infection"/> | | |
| Secondary ERC Review Panel | <input type="text"/> | (if applicable) | |
| ERC Keyword 1* | <input type="text" value="As first keyword please choose one which is linked to the Primary Review Panel."/> | | |
| | <small>Please select, if applicable, the ERC keyword(s) that best characterise the subject of your proposal in order of priority.</small> | | |
| ERC Keyword 2 | <input type="text" value="Not applicable"/> | | |
| ERC Keyword 3 | <input type="text" value="Not applicable"/> | | |
| ERC Keyword 4 | <input type="text" value="Not applicable"/> | | |
| Free keywords | <input type="text" value="In addition, please enter free text keywords that you consider best characterise the scope of your proposal. The choice of keywords should take into account any multi-disciplinary aspects of the proposal."/> | | |

 **Proposal Submission Forms**
European Research Council Executive Agency

Proposal ID **SEP-210680754** Acronym **AdG-2020**

Abstract*

Short Summary

Idéntico al de la B1

Remaining characters 1986

In order to best review your application, do you agree that the above non-confidential proposal title and abstract can be used, without disclosing your identity, when contacting potential reviewers? Yes No

The abstract will be used as a short description of your research proposal in the evaluation process and in communications to contact in particular the potential **remote referees**.



Abstract (A forms)

El **abstract** sin datos personales es la información que se manda a los referees externos después del panel meeting de la 1ª fase de la evaluación para que intervengan evaluando durante la segunda fase de la evaluación

erc Proposal Submission Forms
European Research Council Executive Agency

Proposal ID SEP-210680754 Acronym AdG-2020

Abstract*

Short Summary

Remaining characters 1986

In order to best review your application, do you agree that the above non-confidential proposal title and abstract can be used, without disclosing your identity, when contacting potential reviewers?*

Yes

No

Se fijan en las **Free keywords** proporcionadas para identificar a los potenciales Referees externos

Free keywords

In addition, please enter free text keywords that you consider best characterise the scope of your proposal. The choice of keywords should take into account any multi-disciplinary aspects of the proposal.

Part B1a (Extended Synopsis) 5 pages

| Applicant's last name | Part B1 | ACRONYM |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------|
| Section a: Extended Synopsis of the scientific proposal (max. 5 pages, references do not count towards the page limit) | | |
| <i>[The Extended Synopsis should give a concise presentation of the scientific proposal, with particular attention to the ground-breaking nature of the research project, which will allow evaluation panels to assess, in Step 1 of the evaluation, the feasibility of the outlined scientific approach. Describe the proposed work in the context of the state of the art of the field. It is important that the extended synopsis contains minimum information relevant to the evaluation criteria, since the Step 1 panel will have access only to part B1. References to literature should also be included. Please use a reference style that is commonly used in your discipline such as American Chemical Society (ACS) style, American Medical Association (AMA) style, Modern Language Association (MLA) style, etc. and that allows the evaluators to easily retrieve each reference.]</i> | | |
| <i>Please respect the following formatting constraints: Times New Roman, Arial or similar, at least font size 11, margin sizes (2.0 cm side and 2.5 cm top and bottom), single line spacing.</i> | | |

2

GfA COG2024 p.22

Section a: Extended Synopsis of the scientific proposal (max. 5 pages) should be a concise presentation of the scientific proposal, with particular attention to **the ground-breaking nature** of the research project and the **feasibility of the outlined scientific approach**. It should contain **all essential information** including the feasibility of the scientific proposal since the panel will only evaluate Part B1 at Step 1. References should be included (they do not count towards the page limits).

Part B2 (Scientific Proposal) 14 pages

Applicant's last name

Part B2

ACRONYM

ERC Consolidator Grant 2024 Part B2¹ (not evaluated in Step 1)

Sections (a) and (b) of Part B2 should not exceed 14 pages. References do not count towards the page limits.

Text highlighted in grey should be deleted.

Please respect the following formatting constraints: Times New Roman, Arial or similar, at least font size 11, margins (2.0 cm side and 1.5 cm top and bottom), single line spacing. Do NOT split the sections, references and/or the appendix (Funding ID) and upload them as separate documents.

Section a. State-of-the-art and objectives

Section b. Methodology

Do NOT include any description of resources or budget table here (Part B2). The Resources section and the detailed budget table are part of the online submission form (Part A, Section 3 - Budget) which will be extracted and provided to the peer reviewers.

¹ Instructions for completing Part B2 can be found in the 'Information for Applicants to the Starting and Consolidator Grant 2024 Calls'.

Applicant's last name

Part B2

ACRONYM

Appendix: All current grants and on-going / submitted grant applications of the PI (Funding ID)

Mandatory information (does not count towards page limits)

Current research grants (Please indicate "No funding" when applicable):

| Project Title | Funding source | Amount (Euros) | Period | Role of the PI | Relation to current ERC proposal ² |
|---------------|----------------|----------------|--------|----------------|-----------------------------------------------|
| | | | | | |
| | | | | | |
| | | | | | |

On-going / submitted grant applications (Please indicate "None" when applicable):

| Project Title | Funding source | Amount (Euros) | Period | Role of the PI | Relation to current ERC proposal ² |
|---------------|----------------|----------------|--------|----------------|-----------------------------------------------|
| | | | | | |
| | | | | | |
| | | | | | |

² Describe clearly any scientific overlap between your ERC application and the current research grant or on-going grant application.

Part B2 (Scientific Proposal) 14 pages

Applicant's last name Part B2 ACRONYM

ERC Consolidator Grant 2024
Part B2¹
(not evaluated in Step 1)

Sections (a) and (b) of Part B2 should not exceed 14 pages. References do not count towards the page limits.

Text highlighted in grey should be deleted.

Please respect the following formatting constraints: Times New Roman, Arial or similar, at least font size 11, margins (2.0 cm side and 1.5 cm top and bottom), single line spacing. Do NOT split the sections, references and/or the appendix (Funding ID) and upload them as separate documents.

Section a. State-of-the-art and objectives

Section b. Methodology

Do NOT include any description of resources or budget table here (Part B2). The Resources section and the detailed budget table are part of the online submission form (Part A, Section 3 - Budget) which will be extracted and provided to the peer reviewers.

¹ Instructions for completing Part B2 can be found in the 'Information for Applicants to the Starting and Consolidator Grant 2024 Calls'.

1

GfA COG2024 p.22

Section a: State-of-the-art and objectives. Specify the proposal objectives in the context of the state of the art in the research field. It should be clear **how and** why the proposed work is important for the field, and what **impact** it will have if successful, such as how it may open up new horizons or opportunities for science, technology or scholarship. Specify any particularly challenging or **unconventional aspects** of the proposal, including multi- or inter-disciplinary aspects.

Section b: Methodology. Describe the proposed methodology in detail including any key intermediate goals. Explain and justify the methodology in relation to the state of the art. Highlight any intermediate stages where results may require **adjustments** to the project planning.

In case you ask that team members are engaged by another host institution, their participation has to be fully justified by the scientific added value they bring to the project.

Estructura – Part B1

Sugerencia de Headings en base a los criterios de evaluación

Research Project

Ground-breaking nature and potential impact of the research project (B1+B2)

- important challenges
- ambitious objectives and beyond the state of the art (novel concepts, approaches or development between or across disciplines)

Scientific Approach

- feasible scientific approach ground-breaking nature and ambition of the proposed research? (B1)
- research methodology and working arrangements (B2)
- timescales, resources and PI commitment (B2)

Potential impact of the research project (B1+B2)

[first page of your proposal= **Synthesis**]

↑
1-1,5 pages/5
↓

← 3 pages/5 →

↑
0,5-1 pages/5
↓

Estructura – Part B2

Sugerencia de Headings en base a los criterios de evaluación

Research Project

Ground-breaking nature and potential impact of the research project (B1+B2)

- important challenges
- ambitious objectives and beyond the state of the art (novel concepts, approaches or development between or across disciplines)

Scientific Approach

- feasible scientific approach ... ground-breaking nature and ambition of the proposed research? (B1)
- research methodology and working arrangements (B2)
- timescales, resources and PI commitment (B2)

Potential impact of the research project (B1+B2)

[first page of your proposal= **Synthesis**]

↑
3,5 pages/14
↓

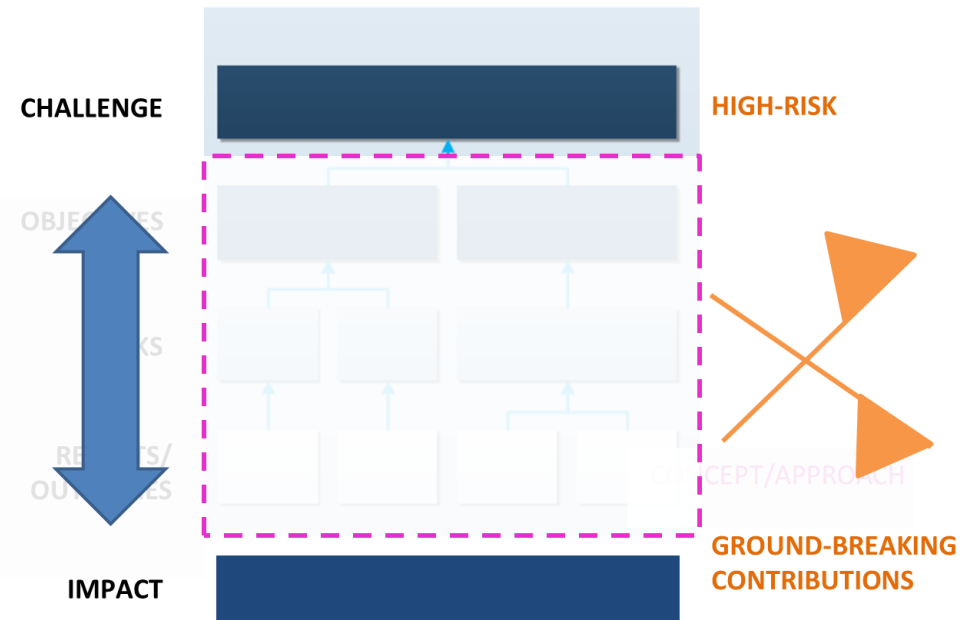
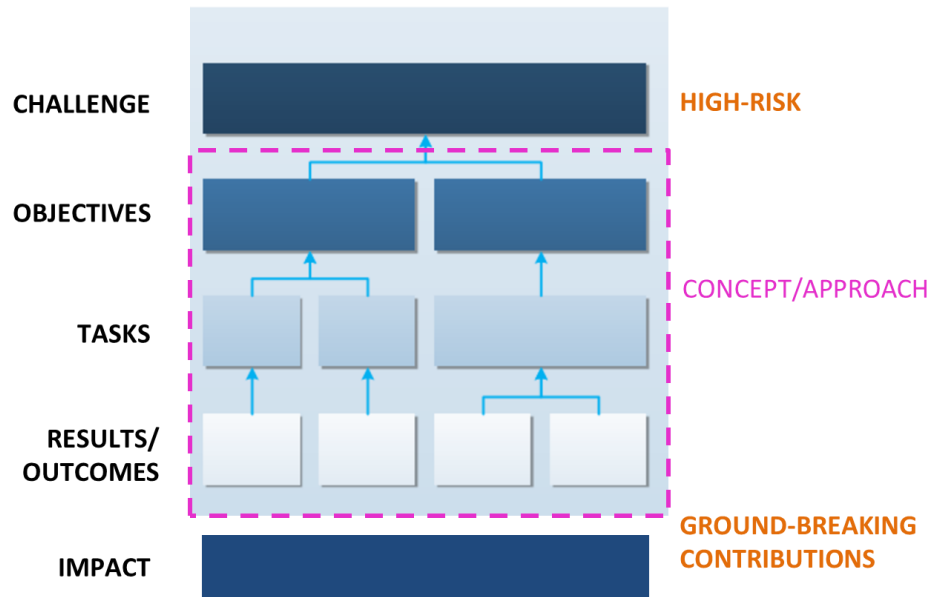
↑
9 pages/14
↓

↑
1,5 pages/14
↓

Estructura

Narración de la propuesta encuadrada en un marco lógico-conceptual que permita entender la ejecución del proyecto como consecuencia de un conjunto de acontecimientos relacionados y que tienen un orden conceptual.

Hilo argumental que conteste a los criterios de evaluación



...important challenges

(B1 & B2)

¿Cuál es la Gran Pregunta de Investigación?

¿Qué es lo que tenemos que entender?

¿Qué es lo que debemos saber sobre (X fenómeno) para poder empezar a hacer algo que impacte en Y (campo científico, industria, sociedad,...)?

¿Cómo es la naturaleza de este reto que quieres acometer?

¿Es un reto teórico, conceptual, aplicado?

¿Es un reto común en tu campo de investigación?

por ej. curar el cáncer...

En este caso el proyecto necesitará de una idea y concepto de proyecto radicalmente novedosa

...important challenges

(B1 & B2)

¿Cuál es la Gran Pregunta de Investigación?



Gran Respuesta de Investigación

Breakthrough

¿Cómo vamos a dirigirnos a los challenges y cómo vamos a combinar los resultados para que éstos constituyan una simetría de lo que es el challenge?

...important challenges

(B1 & B2)

¿Cuál es la Gran Pregunta de Investigación?

¿cuál es la fuente que genera neuronas a lo largo de la vida adulta?

Su trabajo ha acabado con la discusión sobre estas neuronas inmaduras.

MARÍA LLORENS-MARTÍN

“Hemos reconstruido todo el proceso de neurogénesis”

• La bióloga del Centro de Biología Molecular Severo Ochoa ha demostrado que en el cerebro nuevas neuronas durante toda la vida



“¿Cuáles son los mecanismos que controlan la maduración y la integración sináptica de las células recién generadas en los seres humanos y cómo es la fisiopatología de las enfermedades neurodegenerativas y psiquiátricas?”

La investigación

"Hemos conseguido ver por primera vez tanto las células madre de las neuronas como las hijas"

Las implicaciones

"Podría contribuir al diagnóstico precoz de las enfermedades neurodegenerativas"

Fuente: <https://www.lavanguardia.com/vanguardia-de-la-ciencia/20220206/8030235/maria-llorens-martin-nuevas-neuronas.html>
<https://twitter.com/CSIC/status/1492055739292074002?s=20&t=cWUAjLRU1Q4ilve2YyQCnQ>

...ambitious objectives beyond SoA

(B1 & B2)

¿Cómo presentar los objetivos?

separadamente

en combinación con preguntas de investigación

en combinación con conjeturas/hipótesis...

Objetivos más allá del Estado del Arte

- Demostrar por qué los objetivos del proyecto son ambiciosos con respecto a lo que se ha hecho hasta ahora (POR TI/por otros)
- El SoA ayuda a clarificar conceptos y términos usados durante la escritura del proyecto
- Ayuda a entender cuáles son los gaps del campo y, por tanto, ayuda a entender la necesidad de responder AHORA y POR TI a esa Gran Pregunta de Investigación
- Demuestra el conocimiento del IP en los problemas metodológicos, conceptuales, teóricos de campo
- Demuestra el sentido crítico del IP con sus aportes previos al SoA

✓ Preliminary evidence, preliminary data

Evidencias o datos preliminares (feasibility)

Publicados o no publicados

... pero siempre del Investigador Principal

Especial **atención** a cuestiones que susciten **controversia** en la comunidad científica

- Preliminary data
- Validation of hypothesis via recent publication
- Access to data set



Las simulaciones sugieren que los humanos pudieron cruzar el estrecho de Bab-al Mandab a nado o arrastrados por la corriente

Evidencias

- Paleogeografía
- Destrezas físicas
- ¿Registro fósil?

Fuente: <https://www.agenciasinc.es/Noticias/Los-humanos-modernos-no-entraron-en-Europa-cruzando-el-mar-Mediterraneo>

...ambitious objectives beyond SoA

(B1 & B2)

- ✓ No piden una revisión del SoA del campo
- ✓ No es un artículo científico
- ✓ Otorgan el dinero por los cambios (el efecto) que se es capaz de producir en el campo científico, no por escribir un buen SoA.

References

criterio gráfico

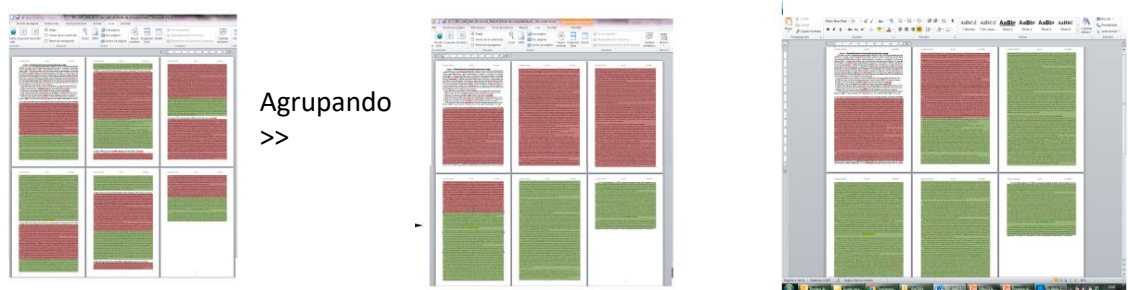
aportaciones al SoA del IP

Autoevaluación

ROJO = SoA
VERDE = proyecto

Agrupando >>

Debería quedar algo así con respecto a las proporciones del proyecto y los objetivos en relación al SoA



...ambitious objectives beyond SoA

(B1 & B2)

- Operacionalizar la Gran Pregunta de Investigación



The overall objective of this project is:

R To study the associations between the social and physical features of the urban environment in relation to population cardiovascular health.

The secondary objectives are the following:

R To run a formative research phase using an qualitative approach to identify and understand the main features of the environment in relation to CVD and the main pathways of this relation.

R To develop a methodology based on state of the art techniques to characterize the social and physical urban environments in a systematic and accurate fashion.

R To compare the already studied relation between the urban environment and cardiovascular health in the United States with this relation in Europe.

R To evaluate naturally occurring changes (natural experiments) such as public policy interventions occurring during the time of the study modifying the food and physical activity environment.

Groundbreaking contributions
Generar evidencia científica relevante para prevenir la 1ª causa de muerte en EU a nivel poblacional

Fuente: <https://hhhproject.eu/starting-grant>
Manuel Franco UAH

...Novel concepts and approaches or developments between or across disciplines

(B1 & B2)

El concepto y enfoque sería la idea subyacente (considerada en su conjunto) de la propuesta

Una idea no convencional

- nuevos conceptos que no existían antes
- uso de conceptos existentes a un contexto o campo diferente
- nuevas combinaciones de principios científicos relacionados
- nuevas combinaciones de principios científicos no relacionados hasta ahora

Una nueva idea necesitará un nuevo enfoque

novel theoretical framework (SH)

...Novel concepts and approaches or developments between or across disciplines

(B1 & B2)

Air transport has by and large been studied as a transportation process, in which different elements, e.g. aircraft or passengers, move within the system. While intuitive, this approach entails several drawbacks [...]. The lack of a better approach is in part responsible for our inability to fully understand delay propagation, one of the most important phenomena in air transport. ARCTIC proposes an ambitious program to change the conceptual framework used to analyse air transport, inspired by the way the brain is studied in neuroscience. It is based on understanding air transport as an information processing system, in which the movement of aircraft is merely a vehicle for information transfer. [...] The approach also entails important challenges, [...] point towards a radically new way of thinking about the dynamics of air transport. [...]

} *Novel concept*

Air Transport as Information and Computation ARCTIC ERC-2019-STG SH2

feasible scientific approach vs. methodology

Sugerencia de Headings en base a los criterios de evaluación

Research Project

Ground-breaking nature and potential impact of the research project (B1+B2)

- important challenges
- ambitious objectives and beyond the state of the art (novel concepts, approaches or development between or across disciplines)

Scientific Approach

- feasible scientific approach ground-breaking nature and ambition of the proposed research? (B1)
- research methodology and working arrangements (B2)
- timescales, resources and PI commitment (B2)

Potential impact of the research project (B1+B2)

3 pages/5 en Part B1

9 pages/14 en Part B2

feasible scientific approach vs. methodology

B1

- feasible outlined scientific approach bearing in mind the ground-breaking nature and ambition

3 pages/5

- Concise and clear (5 pages)
- All the essential information
- General overview of the project
- Emphasis on ground-breaking nature
- **Feasibility** (\neq detailed methodology)
- Support feasibility with preliminary evidences
- Know your competitors and the state-of-art
- Why is your idea and scientific approach outstanding? Potential High gain
- **Risk assessment**
- Explain collaborations
- Research design

B2

- research methodology and working arrangements
- timescales, resources and PI commitment

9 pages/14

- Do not repeat extensively from part B1. Do not copy-paste
- Provide detail –thoroughly- on **methodology**, work plan, selection of **case studies**,...
- Explain any **risk mitigation strategy**
- Explain your timeline, link them to the research objectives or tasks.
- Explain need of additional team members (if applicable)

feasible scientific approach vs. methodology (B2)

9 pages/14

- research methodology and working arrangements

- Strategy to achieve the workplan. **HOW?**
- **WPs/objectives/aims > tasks > outcomes**
- Methods, data, tools per WP
- NO: one single way/ waterfall design
- **Complexity**, loops, iterative design
- **Key Intermediate Goals**. Time-based
- New methods, techniques, tools, data.
- SoA methodology used for the first time in another field

- timescales, resources and PI commitment

- Timeline and human resources per objective and or task
- Expertise needed per objective. Team composition during the 5years.
- Your commitment to the project (leader of your research team)

Algunos ejemplos

Presentación de los argumentos



MicroStars. Extreme time and angular resolution in the optical with Cherenkov telescopes

Tarek Hassan. CIEMAT

ERC Starting Grant 2022

3. Goals

MicroStars will enhance the capabilities of the **6 largest IACTs of the Northern Hemisphere** (2 MAGICs and 4 LSTs) to perform **ultra-fast optical measurements**. Such an upgrade allows two novel applications of these telescopes: their use as **Intensity Interferometers** and as **high-time-resolution fast precision photometers**. MicroStars will ensure this upgraded instrumentation will be available to the scientific community.

3.1 Goal A) Unprecedented imaging of the stars and their surroundings

Goal A1: Transforming IACTs into stellar intensity interferometry arrays.

- **What:** Demonstrate the viability of a 100-channel SII correlator
- **Why:** As discussed in section 2, the optical beam interference performed by classical optical interferometers strongly limits the number of simultaneously measured baselines. The **SII technique is easily scalable, allowing to build radio-like arrays composed of a multitude of telescopes**. When creating a large array of telescopes, the number of correlation pairs increases exponentially along with its UV coverage, i.e. the range of angular scales simultaneously sampled by the interferometer. At the same time, building a correlator technically capable of computing the correlation of each pair becomes a challenge. In addition, the higher the bandwidth (digitizing speed of each telescope data stream) the better sensitivity, but the larger data throughput that will need to be handled by the correlator (preventing e.g. bulk data storage). Achieving this goal would also demonstrate the viability of using SII to reach diffraction-limited imaging on ground-based next-gen large-aperture telescopes using aperture synthesis (see for instance [94]).
- **How:** Inheriting from the experience of radio astronomy correlators [95], the knowledge acquired from the MAGIC-SII setup [55] and making use of current commercial High Performance Computing (HPC) technologies, MicroStars proposes to build a scalable correlator the following way: a set of N_f (number of channels) "F-Machines" will be in charge of digitizing the signal as fast as possible and computing via GPU a Fast Fourier Transform (FFT, specifically Hartley type) of a given data stream (e.g. 2^{18} samples). The resulting FFTs will be streamed to N_x "X-Machines" using one-sided GPUdirect RDMA communication via a NVIDIA mellanox switch [96]. X-Ms will be in charge of accumulating the product of each FFT pair (a very fast and efficient operation). After a large number of cycles (e.g. 1000 cycles) the X-Ms will compute the inverse FFT of each product via GPU (a more intense calculation, performed less frequently) and store the resulting Pearson correlation of each pair. A 12-channel system (12 F-Ms + 2 X-Ms) will be built to demonstrate the viability of the architecture and technology. Such a system architecture is not only scalable to a 100 channels (requiring 100 F-Ms and 20 X-Ms), but also its modularity will allow it to be upgraded in the future: each individual channel bandwidth is currently limited by the old PCI-e version used by digitizing cards (3.0, expected to be improved in the close future) and the number of channels in the future, once digitizing cards start using newer PCI-e standards (current bottleneck of the bandwidth).

Especificidad en la B1

The observational work (work package 1, WP1): will consist of three different tasks: 1) building a **publicly available database from newly acquired data** and literature compilation to investigate the relationship between elementomes and functional traits using **macroalgae, lichens, plants and invertebrates** (O1, H1), 2)

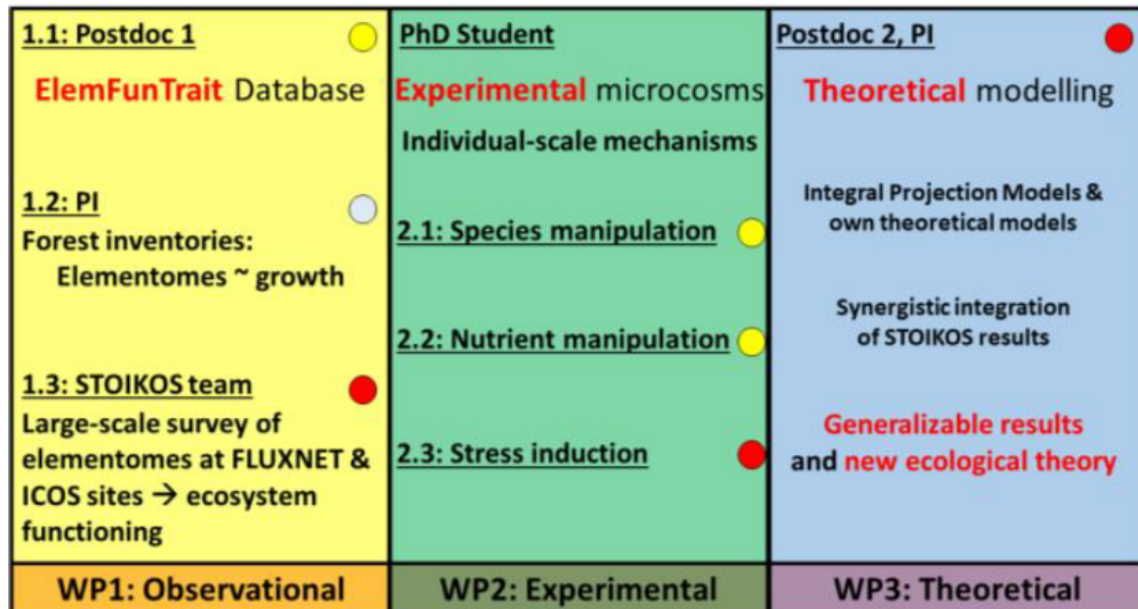


Fig. 4: Summary of STOIKOS work packages. Blue, yellow and red circles represent low, medium and high risk

a synthesis study using **forest inventory data** to study how community-weighted elementomes and elemental diversity affect forest growth (O2, H0 and H2) and, 3) a **European-scale survey of ecosystem elemental composition and diversity** of 30 sites with continuous high-frequency monitoring of C fluxes included in FLUXNET/ICOS networks (O2, H0 and H2).

The experimental work (WP2) will consist of three microcosm experiments using mosses specifically designed to achieve O1, O2 and O3 and test H1, H2 and H3. Experiment 1) will manipulate the number of species per

Marcos Fernández-Martínez. Universitat Autònoma de Barcelona (UAB), Spain
 STOIKOS Elemental Ecology: towards an element-based functional ecology
 ERC Starting Grant 2022

Especificidad en la B2

Marcos Fernández-Martínez. Universitat Autònoma de Barcelona (UAB), Spain
STOIKOS Elemental Ecology: towards an element-based functional ecology
ERC Starting Grant 2022

WP1: Observational work

ElemFunTrait Database (WP1.1): STOIKOS will sample a wide range of organisms to build the ElemFunTrait database, a database containing functional traits, elementomes and functioning of individual organisms, including plants, protists and animals. We will carry out a field campaign to measure functional traits and elementomes of 20 tree species, 20 herbs and grasses, 20 bryophytes (10 mosses and 10 liverworts), 20 foliose lichens, 20 sea macroalgae, and 20 arthropods such as spiders, caterpillar butterflies and isopods (120 species in total, three samples per species). For two of each group, we will also survey three species more intensively to investigate the drivers of their elementome and functional trait plasticity, analysing a total of 15 samples for those selected species. The aim of the dataset will be to test whether larger elementome distances amongst species are linked to larger distances in their functional traits. Additionally, it will elucidate the relationship between the concentration of determined elements and the presence of determined functional traits to achieve O1 and test H1.

Field campaign and measurement of traits and elementomes: Field campaigns will take place in Catalonia, which, thanks to its orography, has a large climatic and altitudinal gradient, containing ecosystems that can be found from the Mediterranean region to the tundra. That will allow the project to sample very different species. In the field, we will measure photosynthesis and respiration at standard conditions (30 °C, 1000 $\mu\text{mol photons s}^{-1} \text{m}^{-2}$) with a CIRAS-3 portable photosynthesis system (PP systems) and additional instrumentation (different leaf cuvettes and chambers, including an insect respiration chamber). Three samples per species will be taken to the lab for further analysing their functional traits, depending on their taxonomic identity (e.g., leaf mass area for plants, density for mosses, liverworts, lichens and macroalgae, trophic level and morphological attributes for arthropods, etc...). All samples will be analysed for C and N concentration and their isotopes (^{13}C and ^{15}N) and P, K, Fe, Ca, Mg, Na, S, Cu, Zn, Mo, Co, and Hg at the laboratories of the University of Barcelona (a total of 360 samples + 105 for plasticity measurements).

Outputs: Measurements of functional traits and elementomes beyond C, N and P is a very important innovation in the field that will raise the interest of a wide community of ecologists. These measurements will be publicly available as soon as we release the first publication of the ElemFunTrait database.

Justificación de los casos de estudio

Resilient rules: Diversidad y evolución institucional



DATA COLLECTION

Systematic review
123 studies,
493 communities



26 agricultural and 26 pastoral communities



Justificación de los casos de estudio

Pulsa Esc para salir del modo de pantalla completa

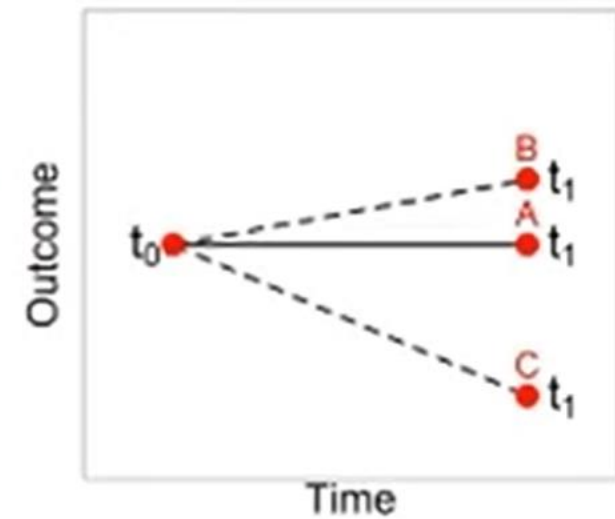


RESEARCH AIMS AND HYPHOTESES

3 Contribution to long-term resilience



| Outcomes | |
|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ecological | <i>E.g., Has the balance between the quantity of units withdrawn and the number of units available today increased, remained the same, or worsen?</i> |
| Social | <i>E.g., Has the level of <u>trust</u> among appropriators improved, remained the same, or worsen? Has the level of <u>equity</u> among appropriators increased, remained the same, or decreased?</i> |
| Collective action | <i>E.g., Have the conditions of the human-made infrastructures improved, remained the same, or worsened?</i> |
| Subjective Objective resilience | <i>Six domains: flexibility to switch between strategies, social organization, learning, access to assets, subjective socio-cognitive constructs (e.g., risk attitudes, personal experience), and perceived response capacity</i> |



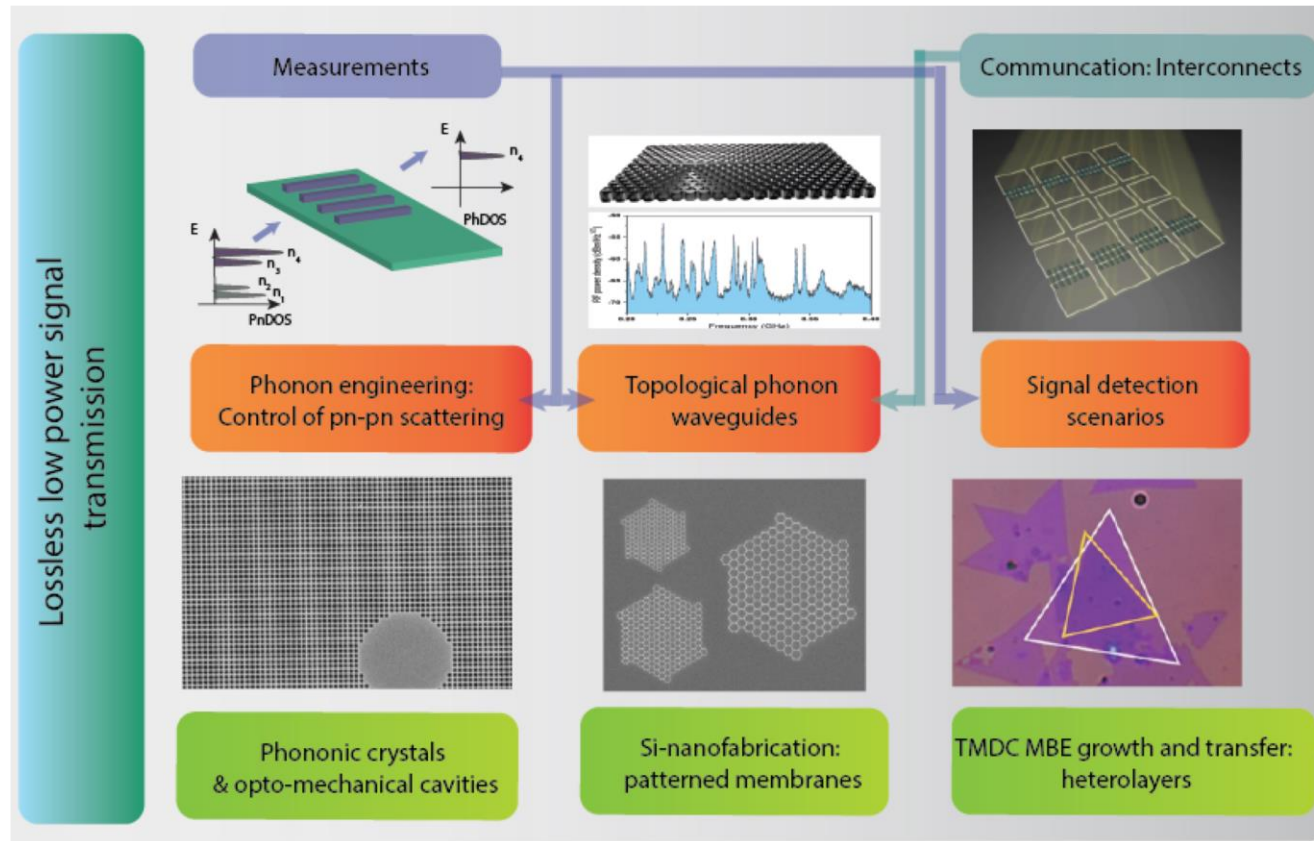
Especificidad en tus compromisos/resultados

Photovoltaics is called to be a main player in the global transformation of the energy sector the world is facing to fight climate change. **Multijunction solar cells**, based on classical **III-V compound semiconductors**, are the most advanced photovoltaic cells holding a record photoconversion **efficiency of 38.8%**. However, the high cost associated to their manufacturing process has typically relegated this technology to non-terrestrial applications in favour of Si cells. On the contrary, **single-junction Si cells** are cost-effective, but there is almost no room left to further improve their efficiency, which already approaches its **theoretical limit, 29.4%**. MIRACLE is created to make true a dream of decades: combining the unbeatable efficiency of multijunction solar cells with the cost-effectiveness of Si technology. The ultimate objective of MIRACLE is the demonstration of both double- and triple-junction solar cells based on **III-V materials pseudomorphically grown on top of a Si cell**, configurations that promise photoconversion efficiencies of up to **43 and 47%, respectively**. Quaternary dilute-nitride alloys are the only III-V compounds that can be grown lattice-matched to Si with ideal band gaps for the fabrication of multijunction solar cells in combination with a bottom Si cell. Nevertheless, despite of their well-known potential, reports on dilute-nitride solar cells are rather scarce yet due to their challenging fabrication with the high structural perfection demanded in photovoltaics. The revolutionary idea of MIRACLE is to make use of quantum engineering to fabricate dilute-nitride compounds lattice matched to Si not as thick layers, as attempted so far, but as short-period superlattices by periodically alternating simpler compounds on atomic-layer scale. Hence, **MIRACLE** does not only aim to **push the efficiency of cost-effective Si-based tandem solar cells to their theoretical limits**, but also to **unveil the physical properties of unexplored quantum heterostructures**.

MIRACLE. Quantum-engineered lattice-matched III-V-on-Si multijunction solar cells
Sergio Fernández Garrido. Universidad Autónoma de Madrid

Gráfica/diseño de la metodología investigación

Lossless Information for Emerging Information Technologies (L E I T)
Clivia M. Sotomayor Torres ERC-2019-Advanced Grant



LEIT project description in one picture

Fuente: Presentación Webinar AdG2020 - 29th May 2020

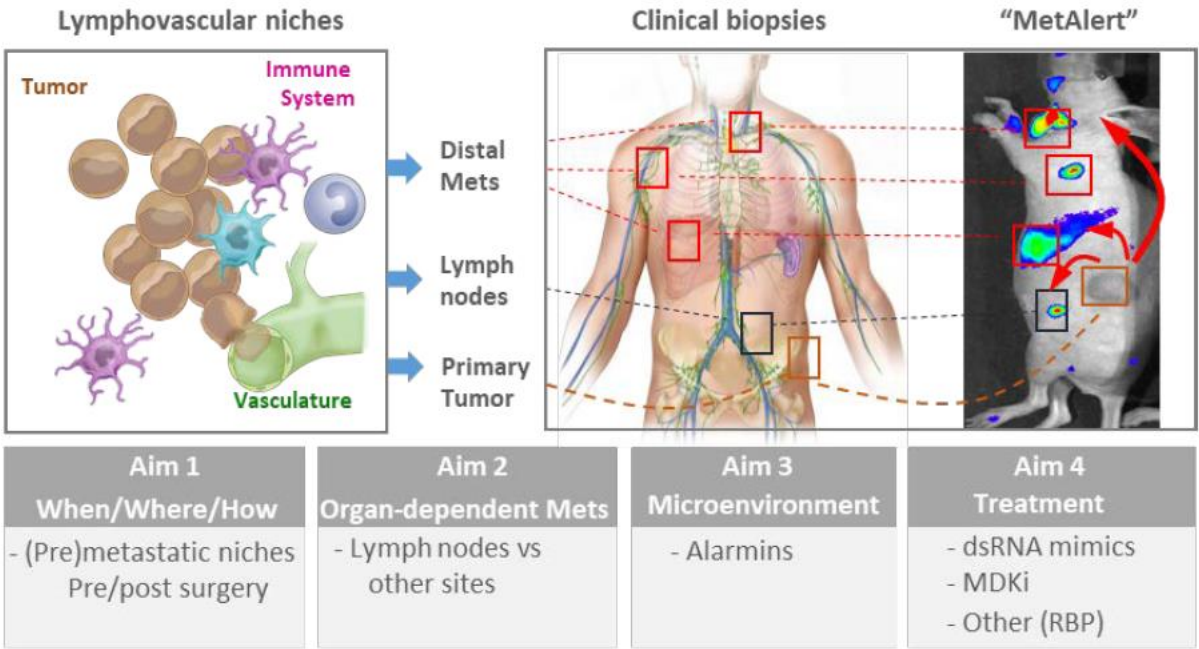
Gráfica/diseño de la metodología investigación

María S. Soengas (LS4) AdG 2019

METALERT-STOP

Imaging, characterizing and targeting metastatic niches in melanoma

B1



Fuente: <https://eshorizonte2020.es/ciencia-excelente/consejo-europeo-de-investigacion-erc/noticias/documentacion-jornada-informativa-nacional-european-research-council-convocatorias-2021>

Gráfica/diseño de la metodología investigación

María S. Soengas (LS4) AdG 2019

METALERT-STOP

Imaging, characterizing and targeting
metastatic niches in melanoma

B2

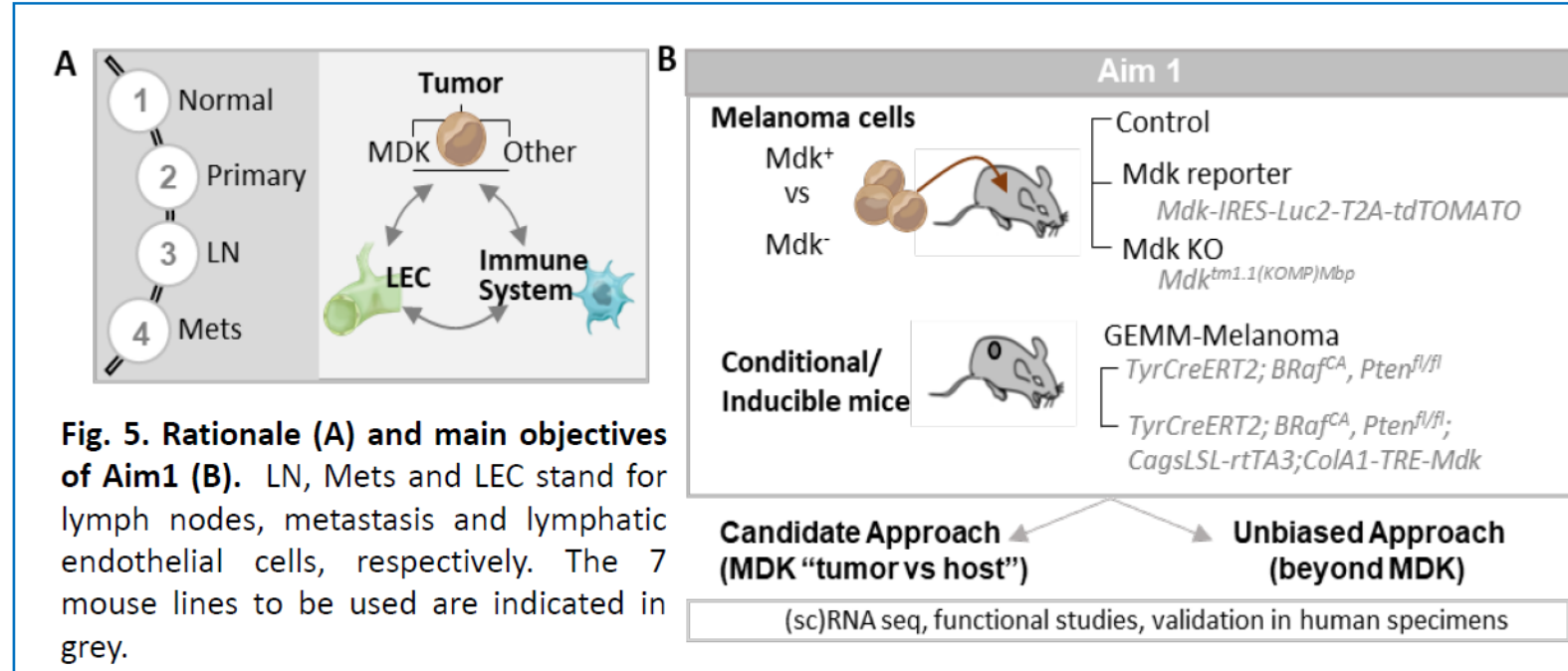


Fig. 5. Rationale (A) and main objectives of Aim1 (B). LN, Mets and LEC stand for lymph nodes, metastasis and lymphatic endothelial cells, respectively. The 7 mouse lines to be used are indicated in grey.

Fuente: <https://eshorizonte2020.es/ciencia-excelente/consejo-europeo-de-investigacion-erc/noticias/documentacion-jornada-informativa-nacional-european-research-council-convocatorias-2021>

Resources and timeline

Resources \neq Budget description

| Personnel (ISCED IV) | Skills |
|----------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Postdoc 1 Level 7-8 Mechanical Engineer | - Optomechanics and IACT hardware - Firmware and HF electronics - Optics and dichroics (OpticStudio) |
| Postdoc 2 Level 7-8 Software Engineer | - HPC architectures - CUDA and possibly FPGA - Professional software developer |
| Postdoc 3 Level 8 PhD in Astrophysics | - Software development - Data analysis - Fast optical astronomy |
| Postdoc 4 Level 8 PhD in Astrophysics | - Data analysis - Instrument simulation/characterization - Interferometry (optical or radio) |
| Project Administrator Level 6-7 Physicist | - Projects / Events organization - Administration experience - Communication and outreach |

MicroStars. Extreme time and angular resolution in the optical with Cherenkov telescopes
Tarek Hassan. CIEMAT

| Part B2 | | MicroStars | | | | |
|--------------------------------|------|------------|----|----|----|----|
| Personnel | Task | Y1 | Y2 | Y3 | Y4 | Y5 |
| PI + PostDoc1 | 1.1 | █ | █ | | | |
| PI + PostDoc1 | 1.2 | █ | █ | | | |
| PA + PostDoc2 | 1.3 | █ | █ | | | |
| PostDoc1 + PostDoc2 | 1.4 | | | █ | █ | █ |
| PostDoc2 | 2.1 | █ | █ | █ | | |
| PostDoc2 + PostDoc3 | 2.2 | | █ | █ | █ | |
| PostDoc2 + PostDoc3 + PostDoc4 | 2.3 | | █ | █ | █ | |
| PostDoc2 + PostDoc3 + PostDoc4 | 2.4 | | █ | █ | █ | |
| PostDoc4 | 3.1 | | █ | █ | █ | █ |
| PI + Postdoc3 + Postdoc4 | 3.2 | █ | █ | █ | █ | █ |
| PI + PA + PostDoc4 | 3.3 | | █ | █ | █ | █ |
| PA | 4.1 | | █ | █ | █ | █ |
| Postdoc3 + Postdoc4 | 4.2 | | █ | █ | █ | █ |
| PA + Outreach teams | 4.3 | | █ | █ | █ | █ |
| PI + PA | WP5 | █ | █ | █ | █ | █ |

Risk assessment and potential impact (B1 & B2)

Terminar la narrativa haciendo un repaso conciso a este criterio de evaluación: análisis de impacto en un apartado separado al final de la propuesta a modo de síntesis

The expected impacts must be listed in the text.
High-gain in your field and in adjacent fields
Suggest the direction your field of research should follow

Risk mitigation strategy (conceptual risks vs. operational risks)
Preliminary evidence

Does this risk justify the potential gain?
“Risk assessment is more than a proof of maturity. It shows your way of thinking and that your choices were not picked randomly, but that you thought of all options available” Odetta Limaj Officer ERCEA

The ERC funds frontier research (basic and applied).
For applied projects, discuss what are the contributions to basic science

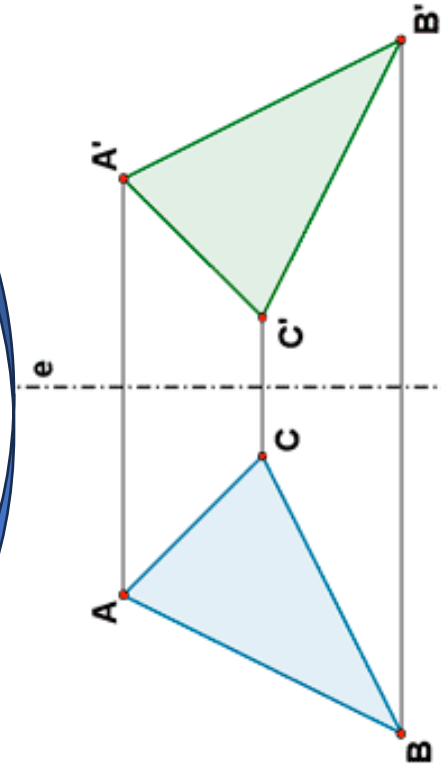
Contributions vs. Publications

Part B2

important challenges
ambitious objectives

approach
methodology
working arrangements
timescales, resources

impact



Risk assessment and potential impact (B1 & B2)

¿Cómo presentarlo en la propuesta? (aquí un ejemplo: ALiEN ERC-2020-AdG)

B1

Risk table (B2 presents a more detailed risk table)

| <i>Risk</i> | <i>Mitigation actions</i> |
|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Problems generalizing to new referents | Work with (still useful) protocols limited to fixed but large class set. Explore special training techniques to encourage 0-shot generalization. |
| Problems generalizing to new agents | Explore simplified setups, e.g., limit architecture variety. Focus on emerged-language supervision. |
| Language-layer tuning of pre-trained DNNs does not suffice | Explore full-architecture re-training (emergent language should still have beneficial properties) and simplify. For example, limit to specific architectures or to visual models only. |
| DNNs do not learn to play full Grocery Challenge | Identify problematic aspects and simplify (e.g., simplify value and price structure). |

Fuente: <https://marcobaroni.org/alien/>

B2

b.3 Risk table

| <i>Risk</i> | <i>Mitigation actions</i> |
|----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WP1, WP2, WP3: Dependencies? | Although the experiments in the three simulation WPs are related and some techniques should ideally be prototyped in WP1 and then applied to WP2 and WP3, there is no crucial dependency such that delays in a WP would prevent concurrent progress in the other WPs. |
| WP1: Problems generalizing to new referents | i) Work with (still useful) protocols limited to a large but fixed number of object classes. ii) Special training methods to encourage 0-shot generalization: in particular, add many training examples where target and distractors are same-class or extremely similar, to spur emergence of a granular attribute-level language. iii) Study problem at the class level: are there specific classes where fast generalization works better? Does this depend on similarity to training classes? Can we capitalize on this observation, if confirmed? |
| WP1, WP2, WP3: Problems generalizing to new agents | i) Explore simplified setups, e.g., limit DNN architecture variety. ii) Focus on supervised imitation learning. iii) Study if community-evolved languages have other advantages, even if they are not as fast to transmit as hypothesized. |
| WP1, WP2: Supervision is not beneficial. | For the time being, we won't get a single "universal" language, but methods to evolve useful languages will still be delivered. Extensive study of <i>why</i> supervision does not help: Is it because language drift undoes its benefits? Does supervision hamper generalization? |
| WP2: Language layer tuning does not | Consider both the full-architecture re-training approach |

Risk assessment and potential impact (B1 & B2)

¿Cómo presentarlo en la propuesta? *(aquí un ejemplo: ALiEN ERC-2020-AdG)*

a.3 Progress beyond the state of the art

ALiEN proposes a **paradigm shift** in managing complex deep learning architectures by evolving **general-purpose interface protocols** that are robust to variations in input information and in the specifics of the neural network components being connected.

To achieve this novel goal, ALiEN relies on the know-how we recently accumulated in the study of emergent DNN language (and, more broadly, language evolution simulations and multi-agent communication). However, it pushes for radical advancement in the area, tackling the issues of **large-scale reference in a perceptually rich world** and **easy transmission across DNNs**. With respect to both goals, the focus is on fast generalization to unseen scenarios, supporting the robustness required by real world

a.4 Impact

ALiEN will impact all the research communities mentioned above. It should trigger a shift in the development of complex **deep learning** architectures **from ad-hoc interfaces to flexible connectivity** and, ultimately, **genuinely autonomous AI agents** able to interact with each other and with us. At the same time, the new emphasis on persistent, shared representations provides new perspectives and defines new problems in **representation learning** and **interpretability studies**. ALiEN gives **cognitive science, language evolution research** and **linguistics** a new body of evidence on **the limits of communication**, and new tools to analyze it. These tools might also prove useful to characterize other types of communication systems, such as animal signaling, or even natural languages themselves.

From an applied perspective, I foresee **coordination between DNN-controlled devices** to become one of the major challenges in the industrial deployment of AI in the coming years. Beyond the **multiagent information retrieval** and **home automation** scenarios simulated in ALiEN, the coordination problem is pervasive. Indeed, a communication-based approach to coordination has recently been proposed for **self-driving cars** (e.g., [97]) and **robot arms** ([98]). As other classic domains in computer science and information technologies scale up to large communities of actors including machine-learning components (e.g., in **communication networks** or **finance**: [99, 100]), the problem of a scalable and flexible coordination protocol will become more and more pressing. **ALiEN puts Europe at the forefront of this important next frontier in AI**. Fittingly, it does so by **building on a long European tradition of studies in language evolution**, communication games and cross-species linguistics.

Fuente: <https://marcobaroni.org/alien/>

ERC Evaluation Summary Reports

Typical reasons for rejection

Principal Investigator

Unconvincing on:

- Track record
- Experience in leadership

Research proposal

Incremental research

Scope: Too narrow or too broad/

Unfocussed

Work plan not detailed
enough/unclear

Insufficient risk assessment

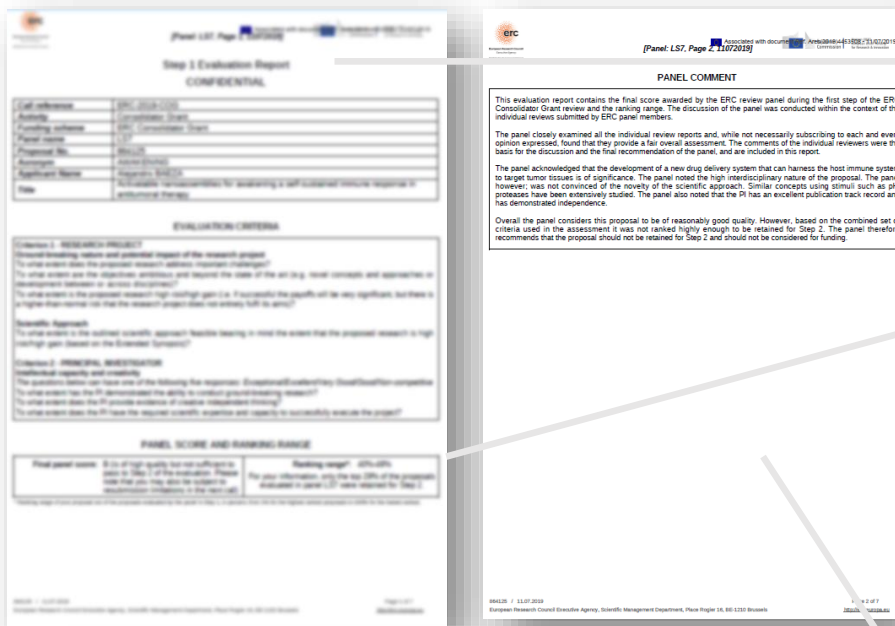
Interview not convincing

B1



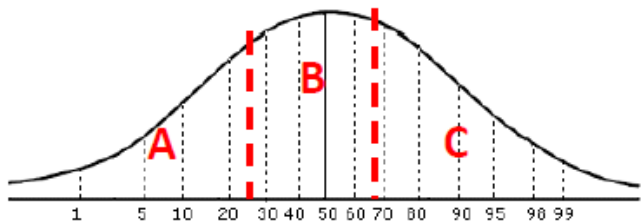
B2

Estructura del Evaluation Summary Report -ESR



Cover sheet: basic info about the proposal (PI, Title, HI),

Final score + ranking range



Panel Comment

Individual reviews: different roles

- Outstanding (4 points)
- Excellent (3 points)
- Very good (2 points)
- Good (1 point)



Why an ERC proposal can fail at 1 step?

Starting Grant 2020

- The nature of the proposal is incremental and unlikely will achieve a ground-breaking contribution to the field.

-The track record of the PI is also below ERC standards, both regarding publications and visibility..”

- The track record of the PI of achieving relevant result is strong, but the PI has not yet reached a high degree of visibility.

-The content of the research work programme is interesting and substantial, but there is not sufficient evidence for the novelty of the approach. The proposal is rather incremental nature, not convincing it would lead to a major breakthrough.”

-The proposal is of good quality and relevance. However, the proposal is not sufficiently ground-breaking and too narrowly focused on X.

-Acknowledgment of the applicant’s scientific achievements in the field. However, the publication record is limited and he has not demonstrated yet sufficient independent creativity”

Why an ERC proposal can fail at 2 step?

Starting Grant 2020

*“The idea of the proposal is ambitious and beyond the state of the art, but the proposal **itself is not well defined enough** to be credible.*

I would consider this high gain and high risk. However, the risk is so high that I don't think the PI realizes it nor addresses it. Applying X method to these research field is a hot area at the moment, making it a somewhat saturated space at the moment since there are so many big advances happening.It's the extreme riskiness of this research direction that makes the proposal less credible.

*The direction of the research is good, but the approach lacks sufficient detail to assess its feasibility. ... I would have preferred **more scientific detail on the approaches and discussion of feasibility.**”*

The PI is excellent and has considerable experience in X research, directly relevant to the project, and a strong publication record in the field.

This proposal addresses an important area in the X energy. The approach is to develop X. The panel appreciated the potential of this novel approach.

*However, there was **disappointment that the methodology had not been developed in more detail in Part B2 of the proposal.** There was also concern about the **lack of detail on the resource allocation and risk analysis.***

Why an ERC proposal can fail?

Advanced Grant 2019 - PE

Ground-breaking nature and potential impact of the research project

*The project is ambitious and **high-risk/high-gain**, even to the extent that the **claimed objectives seem hard to impossible to reach**. It sometimes even seems hard to design experiments to evaluate the objectives.*

*It is not sufficiently clear whether and **why these problems represent the most critical issues in the field**, and whether solving these issues brings **a real breakthrough in xxxx technology**.*

***The project is very applied**, more on the R&D side than on truly scientific development. ...*

*So much has been written about XXX that I find difficult to spot the specifics of the current proposed research project that would isolate it as being particularly innovative. **The setting is quite standard**, based on observations of ages, and the assumption that the panel of participants to the study is representative of xxxx, i.e., that no bias is involved in their selection...*

The tools used for ----- appear to be quite standard.

I would have expected a more ambitious perspective for this.

The project is incremental when compared with the existing methodology.

*The PI is proposing to apply the theory ---- . This is clearly high level mathematics but the challenging character of the new applications is questionable. **This is more the continuation of previous works with interesting new aspects.***

Why an ERC proposal can fail?

Advanced Grant 2019 - PE

Scientific Approach

*The proposal does have an ambitious and interesting long-term objective but it does not convincingly **break down that objective in more realistic, precise and more measurable shorter-time objectives.***

*The scientific approach is not completely clear to me, and I do not clearly see what is the breakthrough which the PI counts upon to develop his product. In any case, **the scientific approach is towards patenting innovative products rather than developing new scientific knowledge.***

*..there is **no** issue with the **expected outcome** of the work..*

*..the project stands **far away from a high risk/high gain** enterprise. It seems to articulate seamlessly with the past and current works of the PI.*

*It is my opinion that the research proposed **is not high-risk/high-gain.***

Why an ERC proposal can fail?

Advanced Grant 2019 - SH

Ground-breaking nature and potential impact of the research project

The main research question underlying the project is interesting and the gaps identified in the literature seem to be generally accurate...

*...the suggested **theoretical framework** is very dense and difficult to follow. There are a large number of concepts and levels of analysis.*

*The project and theoretical framework is potentially very novel and can yield important new findings, but **it needs to be further elaborated** and clarified to understand what it brings to current research.*

Scientific Approach

The project appears to be feasible, The methodology, timeline and execution is quite well defined, but without some further clarification of the theoretical framework and some more information about how the many questions are to be investigated empirically, it is hard to evaluate.

The budget

The budget

3 - Budget

| Beneficiary Short Name | PI | Senior Staff | Postdocs | Students | Other Personnel costs | A.Total personnel costs€ | B. Subcontracting Costs€ (No indirect costs) | C.1 Travel and subsistence | C.2 Equipment - including major equipment | Consumables incl. fieldwork and animal costs | Publications (incl. Open Access fees) and dissemination | Other additional direct costs | C.3 Total other goods, works and services | Total Purchase costs€ | D. Internally invoiced goods and services€ (No indirect costs) | E. Indirect Cost€ | Total Eligible Costs | Requested EU contribution€ |
|------------------------|----|--------------|----------|----------|-----------------------|--------------------------|----------------------------------------------|----------------------------|-------------------------------------------|----------------------------------------------|---------------------------------------------------------|-------------------------------|-------------------------------------------|-----------------------|----------------------------------------------------------------|-------------------|----------------------|----------------------------|
| Fecyt | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.00 | 0.00 | 0.00 |
| Upm | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.00 | 0.00 | 0.00 |
| Total | 0 | 0 | 0 | 0 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0.00 | 0.00 | 0 | 0.00 | 0.00 | 0.00 |

A. Total personnel costs

- PI + Team members >team composition over the 5 years

B. Subcontracting costs (no OH)

C. Total purchase costs

C.1 Travel and subsistence

C.2 Equipment including major equipment >depreiation/capitalized costs

- Consumables including fieldwork and animal costs
- Publications (including **Open Access fees** and dissemination) > OA mandatory
- Other additional direct costs

C.3 Total other goods, works and services

• D. Internally invoiced goods and services (no OH)

• E. Indirect Costs > 25% Direct Costs flat rate

• TOTAL ELIGIBLE COSTS

• REQUESTED EU CONTRIBUTION

Host Institution rules apply!

Additional budget

- (a) 'start-up' costs for a PI moving from another country to the EU or an AC
- (b) the purchase of major equipment
- (c) access to large facilities
- (d) other major experimental and field work costs, excluding personnel costs,

The budget

1. State the amount of funding considered necessary to fulfil the research objectives. The project cost estimation should be as accurate as possible. The requested budget should be fully justified and in proportion to the actual needs. Describe all the cost categories considered necessary for the project. The evaluation panels assess the estimated costs carefully; **unjustified budgets will be reduced.**
2. Describe the **size and nature of the team**, indicating, where appropriate, the **key team members and their roles**. The participation of team members engaged by other host institutions should be justified and in relation to the additional financial cost this may impose. When estimating your personnel costs take into account the dedicated working time to run the project.
3. Explain and describe in detail any **additional funding requested** for the project (**the requested additional funding should be included in the budget table**). Please also indicate under which of the above-mentioned four cost categories the request falls.
4. Include a **short technical description** of any requested **equipment**, why you need it and how much you plan to use it for the project.
5. Include a realistic estimation of the **costs for Open Access** to project outputs. Costs for providing immediate Open Access to publications (article processing charges/book processing charges) are eligible if they are incurred during the lifetime of the project.
6. **Describe any existing resources not requiring EU funding that will be used for the project**, such as infrastructure and equipment.
7. If applicable, specify the cost items covered by your 'Other personnel'. If applicable, specify the cost items covered by your 'Other personnel costs' category and the cost items covered by your 'Other additional direct costs' category.

The budget

All funding requested is assessed during second step of the evaluation process.

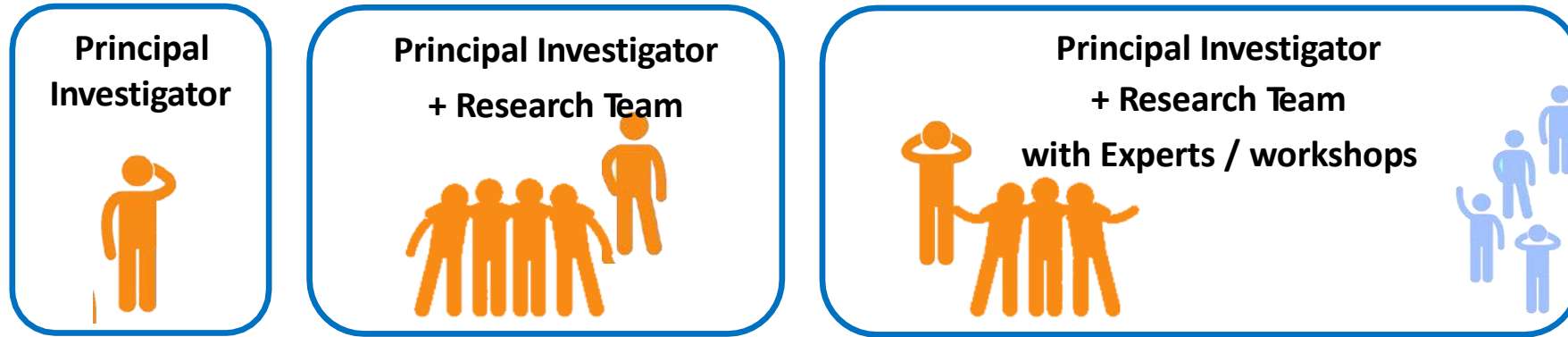
These costs are justified separately in the proposal. There is no definition of “equipment” or “facilities” and all requests will be evaluated by the peer review panel.

Forms A: description of resources + budget table

Part B1 y Part B2: description of team composition + key equipment.

** no todos los revisores van a llegar a leerse los forms A*

The PI + Team Members



El/la PI lidera el proyecto (no hay más PIs que generen consorcio o que sumen para evaluar el perfil individual)

El PI elige a sus **team members**, que participarán en este proyecto ERC.

Team members: personal de investigación de cualquier nivel: PhD students, Postdocs, personal técnico, personal especialista (senior staff), ...

A nivel de propuesta se definen roles necesarios.

A nivel de propuesta, los **team members** deben estar asignados a tareas/objetivos concretos del proyecto. Su participación debe ser necesaria.

The PI + Team Members

Los **team members** pueden ser del grupo de investigación o pueden ser nuevas personas. Pueden estar en la Host Institution o en otra institución.

Ejemplo:

El PI necesita tener a un posdoc trabajando en una institución alemana ya que ahí hay equipamiento especializado para llevar a cabo algunos experimentos necesarios para la acción.

Opciones (máxima flexibilidad)

1. Team member contratado en la HI española; usa el equipamiento del laboratorio alemán en acuerdo con la *additional legal entity*.
2. Team member contratado directamente por el laboratorio alemán (*in-kind contribution provided outside the premises*)

Cuestiones prácticas

1. **Piensa cómo empezar la B1a – seduce al lector**
2. **No existe posibilidad de corregir errores entre la fase 1 y la fase 2.**
3. **No digas simplemente que tu propuesta es excelente, *¡Demuéstralo!* En la B2 tienes que convencerles**
4. **Usa cualquier recurso gráfico que facilite la comprensión**

negrita, headings, figuras, esquemas.
cuidado con los hipervínculos y los colores
Cuidado con abreviaciones y jerga muy científica
5. **Sé muy específico (evita ambigüedades many, some, would,...)**
6. **¿En qué persona narro mi historia? I/The PI/We**

Toma responsabilidad personal por la ideación de la propuesta de investigación
7. **Dale un toque personal**
8. **Ilusionate y transmite tu pasión por la disciplina**

Final message

DO NOT EXCLUDE

Yourself from participating in ERC calls

- **Take risks**, explain your project's high scientific impact if you reach your aims, and **provide evidence that you can do it**.
- **If you fail, try again!** Gain experience from evaluation. Panel feedback is useful and resubmissions have higher success rate.

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¡MUCHAS GRACIAS!



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