

Sesión online European Research Council Advanced Grant 2022

15 Febrero 2022

**Jose Luis García Represente CP ERC
Laura Mohedano y Estefanía Muñoz NCPs ERC**

BIENVENIDA



European Research Council

Established by
the European Commission

NCPs ERC

**Soporte a la comunidad investigadora en
participando en las convocatorias del European
Research Council (ERC)**

Puntos nacionales de contacto

Consejo Europeo de Investigación (ERC)



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Descargo de responsabilidad:

Parte de la información de esta presentación está basada en aprendizajes personales y no constituye una información directa de la CE, ni del ERC.

WEBINAR AdG2022

- Los participantes están silenciados.
- Las preguntas se formulan por: www.menti.com code **4358 8334**
- Las presentaciones se colgarán en:
<https://www.horizonteeuropa.es/webinar-i-y-ii-preparacion-de-propuestas-advanced-grant-2022>
- El seminario se está grabando y quedará accesible a través del link de inscripción.
- Después de terminar, la plataforma GoToWebinar lanzará una encuesta de satisfacción. Os agradecemos mucho que la contestéis.



*Uso de las siglas PI (Principal Investigator) y el lenguaje inclusivo
Diapos en inglés con algo de castellano*



INDICE

Estructura de la propuesta ERC

- **Parte curricular**
- **Extended Synopsis**
- **Scientific Proposal**
- **Resources**

Q&A

ERC ADVANCED GRANTS

ERC Advanced Grant

Are you an established, leading principal investigator who wants long-term funding to pursue a ground-breaking, high-risk project?

The ERC Advanced Grant could be for you.

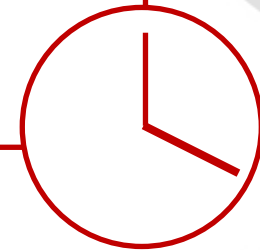
ADVANCED GRANT 2022

ERC-2022-ADG

Open: 20-01-2022

Deadline: 28-04-2022

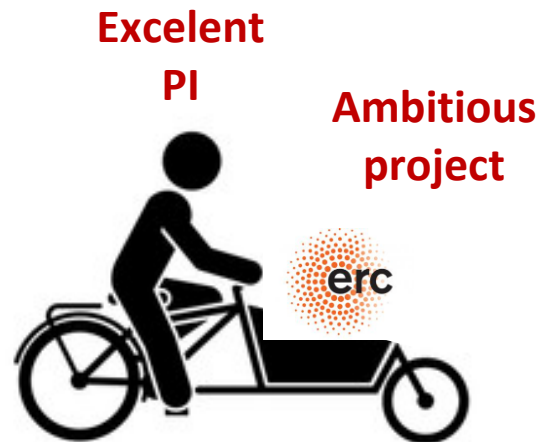
555 million EUR
(223 grants)



The aim is to promote **substantial advances** in the **frontiers of knowledge**, and to encourage **new productive lines** of enquiry and **new methods and techniques**, including **unconventional approaches** innovative projects, with the aim of a far-reaching impact for the long-term benefit of all.

ERC Advanced Grant Principal Investigator (PI)

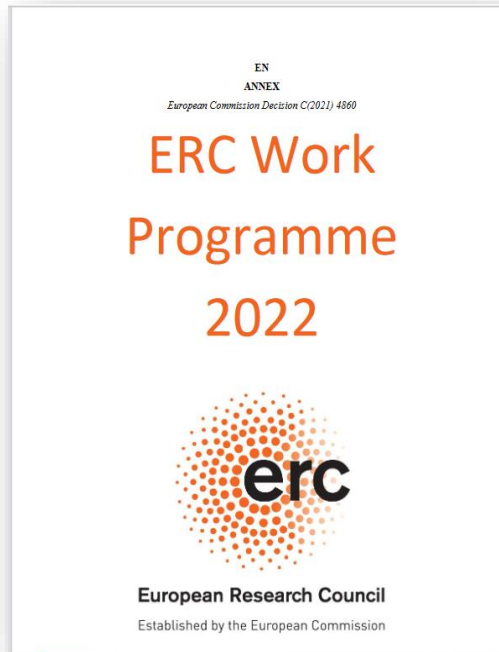
- Devote at least 30% of their working time to the ERC-Advanced project
- Spend at least 50% of their working time in EU/AC
- No PhD or seniority experience (years) needed



ERC Guides 2022– essential documents

ERC Work Programme

calls calendar



Information for Applicants

IfA to AdG call



Guide for Peer Reviewers

GfPR AdG call



ERC WP 2022: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/wp-call/2022/wp_horizon-erc-2022_en.pdf

Information for Applicants to AdG: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/information-for-applicants_he-erc-adg_en.pdf

Guide for Peer Reviewers Advanced Grant Cal (2021 actualizar cuando salga): https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/experts/guide-for-peer-reviewers_he-erc-adg_en.pdf

ERC 2022 PROPOSAL

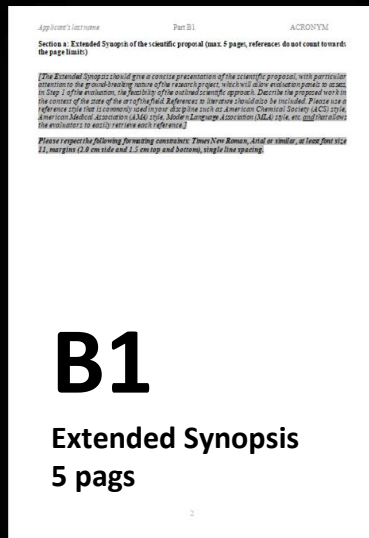
ERC 2022 Proposal – individual

1 step evaluation

- B1
- Panel Members

One deadline | 2 steps evaluation process

The ERC full proposal = B1 + B2 + **PartA***



Part B1 – documento pdf

- Cover Page and summary
- Extended Synopsis (5pags)
- Curriculum vitae (2pags)
- Track-record (2p)

Parte A – Formularios online

A1 General Information

abstract

A2 Participants (GEP)

A3 Budget *

table + description (8000c)

A4 Ethics and security

A5 Other questions

% Time commitment*

Exclusión hasta 3 evaluadores

Annexes

- HI support letter
- Ethics issues and security
- Eligibility window
- PhD certificate

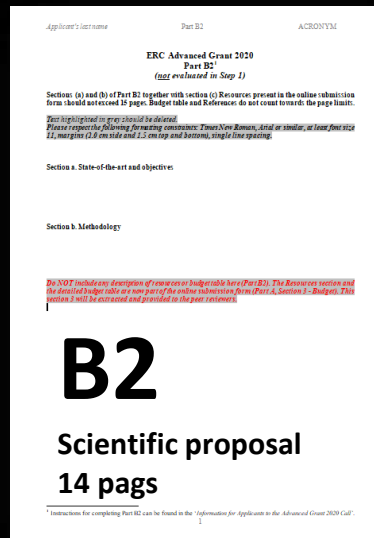
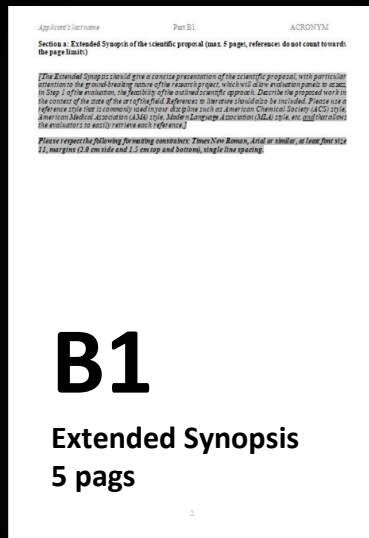
ERC 2022 Proposal – individual

One deadline | 2 steps evaluation process

2 step evaluation

- **B1 + B2**
- **Panel Members + External referees**

The ERC full proposal = B1 + B2 + **PartA***



Parte A – Formularios online
A1 General Information
abstract

A2 Participants (GEP)

A3 Budget *

table + description (8000c)

A4 Ethics and security

A5 Other questions

% Time commitment*

Exclusión hasta 3 evaluadores

Annexes

- HI support letter
- Ethics issues and security
- Eligibility window
- PhD certificate

Part B1 – documento pdf

- Cover Page and summary
- Extended Synopsis (5pags)
- Curriculum vitae (2pags)
- **Track-record (2p)**

Part B2 – documento pdf (14pags)

- SoA & objectives
- Methodology

ERC AdG 2022 EVALUATION CRITERIA

Excellence is the sole evaluation criteria

applied to the PI + Research Project

*No industrial impact needed
No need for an EU dimension
Less money same chances*

Evaluation criteria AdG2022

Excellence is the sole evaluation criteria applied to the PI + Research Project

Principal Investigator - Intellectual capacity and creativity

- demonstrated the ability to conduct ground-breaking research?
- evidence of creative independent thinking?
- required scientific expertise and capacity to successfully execute the project?
- demonstrated sound leadership in the training and advancement of young scientists? **Only for AdG**

1st
step
B1b y
B1c

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?
 - are there novel concepts and approaches or development between or across disciplines?
- is the proposed research high risk-high gain?

Scientific Approach

- is the outlined scientific approach feasible....high risk/high gain? (B1)
- are the proposed research methodology and working arrangements appropriate? (B2)
- does the proposal involve the development of novel methodology? (B2)
- are the proposed timescales, resources and PI commitment adequate? (B2)

ERC ADG 2022

Proposal B1b y B1c (parte curricular)

Section B1b Curriculum vitae

[Please follow the template below as closely as possible; it may be adapted as necessary]

Applicant's last name Part B1 ACRONYM

Section B1: Curriculum vitae (max. 2 pages)

Please follow the template below as much as possible (it may however be amended if necessary).

PERSONAL INFORMATION

Family name, First name:

Researcher unique identifier(s) (such as ORCID, Research ID, etc. ...):

Date of birth:

Nationality:

URL for web site:

EDUCATION

199? PhD
Name of Faculty/ Department, Name of University/ Institution/ Country
199? Master
Name of Faculty/ Department, Name of University/ Institution/ Country

CURRENT POSITION(S)

201? – Current Position
Name of Faculty/ Department, Name of University/ Institution/ Country
200? – Current Position
Name of Faculty/ Department, Name of University/ Institution/ Country

PREVIOUS POSITIONS

200? – 200? Position held
Name of Faculty/ Department, Name of University/ Institution/ Country
200? – 200? Position held
Name of Faculty/ Department, Name of University/ Institution/ Country

FELLOWSHIPS AND AWARDS

200? – 200? Scholarship, Name of Faculty/ Department/ Centre, Name of University/ Institution/ Country
200? Award, Name of Institution/ Country
199? – 199? Scholarship, Name of Faculty/ Department/ Centre, Name of University/ Institution/ Country

SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

200? – 200? Number of Postdocs/ PhD/ Master Students
Name of Faculty/ Department/ Centre, Name of University/ Institution/ Country

TEACHING ACTIVITIES (if applicable)

200? – Teaching position – Topic, Name of University/ Institution/ Country
200? – 200? Teaching position – Topic, Name of University/ Institution/ Country

ORGANISATION OF SCIENTIFIC MEETINGS (if applicable)

201? Please specify your role and the name of event / Country
200? Please specify type of event / number of participants / Country

Applicant's last name Part B1 ACRONYM

INSTITUTIONAL RESPONSIBILITIES (if applicable)

201? – Faculty member, Name of University/ Institution/ Country
201? – 201? Graduate Student Advisor, Name of University/ Institution/ Country
200? – 200? Member of the Faculty Committee, Name of University/ Institution/ Country
200? – 200? Organizer of the Internal Seminar, Name of University/ Institution/ Country
200? – 200? Member of a Committee; role, Name of University/ Institution/ Country

REVIEWING ACTIVITIES (if applicable)

201? – Scientific Advisory Board, Name of University/ Institution/ Country
201? – Review Board, Name of University/ Institution/ Country
201? – Review panel member, Name of University/ Institution/ Country
201? – Editorial Board, Name of University/ Institution/ Country
200? – Scientific Advisory Board, Name of University/ Institution/ Country
200? – Reviewer, Name of University/ Institution/ Country
200? – Scientific Evaluation, Name of University/ Institution/ Country
200? – Evaluator, Name of University/ Institution/ Country

MEMBERSHIPS OF SCIENTIFIC SOCIETIES (if applicable)

201? – Member, Research Network "Name of Research Network"
200? – Associated Member, Name of Faculty/ Department/ Centre, Name of University/ Institution/ Country
200? – Founding Member, Name of Faculty/ Department/ Centre, Name of University/ Institution/ Country

MAJOR COLLABORATIONS (if applicable)

Name of collaborators, Topic, Name of Faculty/ Department/ Centre, Name of University/ Institution/ Country

CAREER BREAKS (if applicable)²

Exact dates Please indicate the reason and the duration in months.

COVID-19 IMPACT TO SCIENTIFIC PRODUCTIVITY (if applicable)

Please specify which of the following situations apply to you:

- ☐ Increased caring responsibility for dependent person, including home schooling of children;
- ☐ No access to laboratory facilities, archives, or other necessary facilities;
- ☐ No access to field work;
- ☐ Adaptation to online teaching;
- ☐ Physical and/or mental health issues;
- ☐ Other(s) _____
- ☐ Other(s) _____

(optional)

Explain with objective facts how your productivity was affected by the COVID-19 pandemic. There is a limit of 300 characters, spaces and line breaks included.

² Indicate relevant career breaks, especially if the track-record presented in section c exceeds 10 years (ERC WP 2022, p.21-22).



Section B1b Curriculum vitae

- **Personal Information:** declaración de hechos/ actualizar webs
- **Education:** PhD, Master, Licenciatura/ director(a) PhD/ distinciones
- **Current Position(s):** dobles afiliaciones/ posición adecuada para el proyecto
- **Previous Position(s):** si no hay movimientos, destacar los hechos por etapa
- **Fellowships & Awards:** también las rechazadas
- **Supervision of Students:** capacidad de gestionar un equipo y de crear escuela
- **Teaching Activities (if Applicable):** relac. temática del proyecto/distinguir nivel
- **Organis. Scientific Meetings:** muestra liderazgo
- **Institutional Responsibilities:** muestra capacidad de gestión/administrativa
- **Reviewing Activities:** regular reviewer/editorial boards...
- **Memberships Scientific Societies**
- **Major Collaborations:** con nombres e institución/ consorcios, co-autores...
- **Career Breaks**
- **COVID-19 Impact to scientific productivity**

NO Hyperlinks > experts are under no obligation to review external documents

Section B1b Curriculum vitae

- **Commissions of Trust:** experto del Plan Nacional, de COST Actions...
- **Publications > Some Selected Publications**
- **Funding: Projects:** los pasados. Los actuales en sección Funding ID
- **Outreach – Press – Media**
- **Patents**
- **Softwares**
- **Invited presentations to internationally established conferences and/or international advanced schools:** Key note speaker/participadas/conf. relevantes en el campo
- **Research Expeditions leaded:** no son field works/ larga duración
- **Prizes, awards, academy memberships:** reconocimiento internacional a través de premios científicos o artísticos, pertenencia a academias o artefactos con uso documentado (por ejemplo, diseño arquitectónico o de ingeniería, métodos o herramientas);
- **Major contributions to the early careers of excellent researchers;**
- **Examples of innovation leadership:** para aquellos campos que tenga una relación directa entre el estudio y la aplicabilidad en el mundo real

Minor Changes WP2021

Change of one of the benchmarks indicative of an “exceptional record and recognition” for AdG applicants, “recognised leadership in industrial innovation” changed into “**recognised innovation leadership**”

Section B1b Curriculum vitae

Fuente: <https://www.uv.es/gaita/decrecim.html>

Section b: Curriculum Vitae

PERSONAL INFORMATION

Gaita-Ariño, Alejandro Date of birth: May 26, 1976
 Instituto de Ciencia Molecular, Universidad de Valencia (UV)
 c/ Catedrático José Beltrán, 2, 46980, Paterna, Spain
 Tel: +34 96 354 4421 Fax: +34 96 354 3273
 web page: <http://www.uv.es/gaita> e-mail: alejandro.gaita@uv.es
 Researcher ID: D-2110-2014



EDUCATION

2004	PhD in Chemistry	(grade: excellent Cum Laude)	University of Valencia, Spain
	supervisors:	Prof. E. Coronado and Dr. J.M. Clemente-Juan	
1999	MSc in Chemistry	(grade: excellent)	University of Valencia, Spain

POSITION

2013 – 2018 Ramón y Cajal Fellow, Group Leader.
 ICMol, UV, Spain
 2011 – 2013 Research Associate, ICMol, UV, Spain
 2010 – 2011 Marie Curie fellow, ICMol, UV, Spain
 2008 – 2010 Marie Curie fellow, PIRP, UBC, Canada
 2007 – 2008† Postdoctoral fellow, PIRP, UBC, Canada
 2007† Postdoctoral fellow, ICMol, UV, Spain
 † until I resigned to accept the next Fellowship
 2004 – 2007 Research Associate, ICMol, UV, Spain
 2000 – 2004 Early Stage Researcher, Dept. Inorg. Chem, UV, Spain
 1998 – 1999 Student Collaborator, Dept. Inorg. Chem, UV, Spain

FUNDING: GRANTS AND FELLOWSHIPS

Ramón y Cajal Fellowship
 (Spanish government)
 Marie Curie Int. Out. Fellowship
 (CORDIS-FP7)
 Postdoctoral Fellowship, (Spain)
 Postdoctoral Fellowship
 (Valencian regional government)
 Predoctoral Grant (Valencia)
 Collaboration Grant, (Spain)

RESEARCH INTERESTS

My research interests are in molecular magnetism and quantum computing. I am currently interested in
 (1) the theoretical modeling of molecular nanomagnets (in particular rare-earth single-ion magnets),
 (2) the rational design of molecular spin qubits and of schemes for implementing quantum gates and
 (3) the modeling of the coupling of lattice phonons with molecular excitations.

SUPERVISION OF GRADUATE STUDENTS (2004-2014) and RESEARCH TEAM

Masters + PhD thesis (past): S. Cardona-Serra, M. A. Abdallah Aldamen
 Masters + PhD thesis (ongoing): J. J. Baldoví Jachán, L. Escalera Moreno

I currently lead a small research team formed by S.CS (postdoc), JJB (PhD) and LEM (Master).

RESEARCH STAYS AND MAIN COLLABORATORS

ongoing collaborations with	Prof. D. Loss,	Universität Basel,	CH
	Dr. S. Hill,	National High Magnetic Field Lab.,	US
	Dr. F. Luis,	Universidad de Zaragoza,	ES
	Dr. L. Bogani,	Universität Stuttgart,	DE
	Dr. M. Schechter,	Ben Gurion University,	IL
2013	1 short research stays at Institut für Physik (Basel, CH),		3 weeks
2007-2010	1 postdoctoral stay at Pacific Institute of Theoretical Physics (Vancouver, CA)		3 years
2006	2 research stays at Institut für Physik (Basel, CH),		3 months
1999 – 2005	5 short visits to the Institut Laue Langevin (Grenoble, FR)		2 weeks
2005 – 2006	2 research stays at Université Paul Sabatier (Toulouse, FR)		7 months

Gaita-Ariño

Part B1

DECRESIM

CAREER RECORD

33 scientific publications in high-impact peer-reviewed international journals, including:
 Nature Nanotechnology¹ (1) Phys. Rev. Lett.² (2) Chem. Commun.³ (2) Chem. Sci. (1)
 J. Am. Chem. Soc. (3) Angew. Chem. Int. Ed. (1) Chem. Soc. Rev. (1) Inorg. Chem. (4)
 Chem. Eur. J. (3) J. Mater. Chem. (2) Dalton Trans. (2)
n° of citations = 1265 (25% in 2013) **h-index = 17** **citations/article = 38**
Corresponding Author (CA) in 6 publications (+4 submitted).
2 publications without any PhD supervisors (+2 submitted).
2 "hot" papers (1 as CA) and 4 "research front" papers (3 as CA),
 with a total of 5 "highly cited" papers (3 as CA).²⁷
¹ highlighted in a News and Views; ² 1 PRL Editors' Suggestion; ³ 1 "referee-recommended"

FUNDING: PROJECTS

I participated in 20 R+D+I projects funded in competitive tenders by public or private bodies.

Highlighted projects in the past 5 years (budget for the UV node):

STREP Project no. 211284 "Molecular Spin Clusters for Quantum Information Processes", ICT-2007.8.0	M. Affronte	240 k€	2008 – 2011
Consolider-Ingenio CSD2007-00010 "Molecular Nanoscience"	E. Coronado	2200 k€	2007 – 2013
Collaborative project FP7-270369, "Electric Field Control Over Spin Molecules"	H. van der Zant	450 k€	2011 – 2013
ERC Advanced Grant FP7-ERC-247384 "Magnetic Molecules and Hybrid Materials for Molecular Spintronics"	E. Coronado	1679 k€	2010 – 2015
COST Action CM1203 "Polyoxometalate Chemistry for Molecular Nanoscience"	J. Errington	100 k€	2012 – 2016
MAT2011-22785 "Del magnetismo molecular a la espintrónica molecular"	E. Coronado	600 k€	2012 – 2014
MAT2007-61584 "Materiales moleculares para el magnetismo y la electrónica molecular: del diseño, estudio y procesamiento de nuevos materiales al desarrollo de aplicaciones"	E. Coronado	1244 k€	2007 – 2014
Nanomagnetismo Molecular: del diseño de moléculas magnéticas a la fabricación de dispositivos espintrónicos; PROMETEOII/2013/006	E. Coronado	500 k€	2013 – 2016
PIOF-GA-2008-219514 "Decoherence in magnetic molecules as qubits"	A. Gaita	220 k€	2008 – 2011
Ramón y Cajal project RYC-2012-11908	A. Gaita	210 k€	2013 – 2018
Marie Curie Network SEP-210163218 "Anisotropy in Molecular Compounds of Rare Earths and Uranium"	R. Wüppenny	400 k€	(evaluation stage)

CONTRIBUTIONS TO CONFERENCES

40 contributions to conferences, including 6 contributed oral talks and 7 invited talks:

2014: "10th International Workshop on Nanomagnetism and Superconductivity at the Nanoscale"
 2013: American Physical Society March Meeting
 2012: 62nd Fujiwara Seminar "Frontiers and Perspectives in Molecule-Based Quantum Magnets"
 2012: Symposium "Frontiers in Metal-Oxide Cluster Science"
 2011: Israel Physical Society Conference
 2010: International Chemical Congress of Pacific Basin Societies
 2008: European Materials Research Society Spring Meeting

JOURNAL REFEREEING

I am presently reviewer for the American Chemical Society (*Inorganic Chemistry*), the Royal Society of Chemistry (*Physical Chemistry Chemical Physics*) and Elsevier (*Chemical Physics Letters*).

OTHERS: LANGUAGE PROFICIENCY + OUTREACH

ILR5: Spanish ILR4: English ILR3: Catalan ILR2: German, French, Esperanto
 I have written one scientific [outreach article](#) in the general press and 2 [upper <0.5%](#) Wikipedia articles.
 I am responsible of a [science blog](#) associated with a monthly publication.

27 Source: Essential Science Indicators of the Web of Knowledge

Section B1b Curriculum vitae

Supervision of Students

SUPERVISION OF GRADUATE STUDENTS

I firmly believe that Ph.D. students are the blood and flesh of any good department. Among the twenty Ph.D. students who completed their dissertation under my supervision, fifteen are working in research and teaching positions (among whom nine already hold permanent positions at universities or in Central Bank research centers), five are in executive positions in major institutions (EU and World Bank). I am currently supervising four Ph.D. students (1 almost ready to complete).

20 completed dissertations as supervisor: Alexandra Rillaers (2000), Rafael Munoz (2000), Géraldine Mahieu (2002), Joao Medeiros (2003), Lionel Artige (2004), Fabio Mariani (2005), Tapas Mishra (2006), Carmen Camacho (2007), Alessandro Sommacal (2008), Davide Dottori (2009), Luca Marchiori (2009), Gül Ertan Özgüler (2010), Paolo Melindi Ghidi (2012), Paula Eugenia Gobbi (2013), Emeline Bezin (2015), Pierre Pecher (2016), Hamzeh Arabzadeh (2016), Robert Stelter (2016), Lucia Granelli (2018), Zainab Iftikhar (2018), Elisa Rizzo (2018).

https://perso.uclouvain.be/david.delacroix/erc/UCL_delaCroix_UTHC_AdG_2019_B1.pdf

At the *University A* and the *XYZ Scientific Centre*, Madrid, and from 1995 until now I have directed **17 PhD theses** (5 ongoing), and about **24 Master theses**. I have hosted about **12 postdocs** (2 ongoing). Of my former students, 4 are professors at the *University B* and 2 elsewhere in Paris. One is Associate Professor at *University topC (USA)*, and one is a Lecturer at *University topD (Japan)*. Several have gone into industry, and reached executive positions, including two company chairpersons and a vice-president of *XYZ Corporation*. Roughly half of the postdocs are faculty members at universities in Europe, the USA and Japan (one of them in Spain).

Section B1b Curriculum vitae

Publications

B1b

Overview of publication record: destacar logros más allá de los últimos 10 años.

VS.

B1c

Top 10 publications in the last 10Years

OVERVIEW OF PUBLICATION RECORD

54 coauthors, 89 published articles, 2 monographs, 2 encyclopedia entries, 32 popular articles.

Significant publications in top-5 journals:

De la Croix D., M. Doepke, and J. Mokyr, Clans, Guilds, and Markets: Apprenticeship Institutions and Growth in the Pre-Industrial Economy, *Quarterly Journal of Economics*, **133**, 1-70, 2018.

Baudin T., De la Croix D., and P. Gobbi, Fertility and childlessness in the United States, *American Economic Review*, **105**, 1852-1882, 2015.

De la Croix D. and F. Mariani, From Polygyny to Serial Monogamy: a Unified Theory of Marriage Institutions, *Review of Economic Studies*, **82**, 565-607, 2015.

De la Croix D. and M. Doepke, To Segregate or to Integrate: Education Politics and Democracy, *Review of Economic Studies*, **76**, 597-628, 2009.

De la Croix D. and M. Doepke, Inequality and growth: why differential fertility matters, *American Economic Review*, **93**, 1091-1113, 2003.

Most cited publications:

De la Croix D. and M. Doepke, Inequality and growth: why differential fertility matters, *American Economic Review*, **93**, 1091-1113, 2003. GS # citations: 792

De la Croix D. and P. Michel, *A Theory of Economic Growth: Dynamics and Policy in Overlapping Generations*, Cambridge University Press, 2002. ISBN 978-0521001151. GS # citations: 602

Boucekkine R., D. De la Croix and O. Licandro, Vintage human capital, demographic trends and growth, *Journal of Economic Theory*, **104**, 340-375, 2002. GS # citations: 489

de la Croix

ERC-2019-AdG – B1

UTHC

Section c: Ten-year track record

BIBLIOMETRY (July 22, 2019)

5,079 citations (G. Scholar), 1,487 citations in Scopus.

h-index: 33 according to G. Scholar, 18 according to Scopus.

In **Repec**, among the top 1% authors at the world level according to 38 criteria, among which: Number of Distinct Works, Number of Citations, h-index, Number of Journal Pages, Strength of students.

TOP 10 SCIENTIFIC PUBLICATIONS in the last 10 years

Baudin T., De la Croix D., and P. Gobbi, Endogenous Childlessness and Stages of Development, *Journal of the European Economic Association*, forthcoming.

Measures the importance of opportunity driven and poverty driven childlessness in 36 developing countries with a structural model of fertility and marriage. Shows that the endogenous response of marriage and childlessness matter for determining the impact of social progress.

De la Croix D., M. Doepke, and J. Mokyr, Clans, Guilds, and Markets: Apprenticeship Institutions and Growth in the Pre-Industrial Economy., *Quarterly Journal of Economics*, **133**, 1-70, 2018.

Compares growth under alternative institutions to deal with the moral hazard problem in master-apprentice relationship. Guilds and market-based systems allow knowledge to cross the family/clan boundaries. Guild adoption is more likely when initially in a nuclear family system.

De la Croix D. and F. Perrin, French Fertility and Education Transition: Rational Choice vs Cultural Diffusion, *European Economic Review*, **108**, 221-245, 2018.

Studies the French fertility and education transition in nineteenth century. Determines how much a structural rational-choice model can explain and show that additional insights are gained by considering cross county differences in family structure.

Baudin T., De la Croix D., and P. Gobbi, Fertility and childlessness in the United States, *American Economic Review*, **105**, 1852-1882, 2015.

Fuente: https://perso.uclouvain.be/david.delacroix/erc/UCL_delaCroix_UTHC_AdG_2019_B1.pdf

Appendix (funding ID)

Applicant's last name _____ Part B1 ACRONYM _____

Appendix: All ongoing and submitted grants and funding of the PI (Funding ID)
Mandatory information (not counted towards page limits)

On-going Grants (Please indicate "No funding" when applicable):

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

Grant applications (Please indicate "No funding" 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 any grant application.

- Novedad
- Overlap
- Double funding

Appendix: All ongoing and submitted grants and funding of the PI
Mandatory information
(not counted towards page limits)

Section B1c 10 Years track-record

Applicant's last name

Part B1

ACRONYM

Section c: Ten years track-record (max. 2 pages)¹

(see 'Information for Applicants to the Advanced Grant 2019 Call' – instructions for completing 'Part B' of the proposal)

Applicant's last name

Part B1

ACRONYM

should list important achievements, including up to 10 of the most important publications* . The publications should be properly referenced, including all authors in the published order. **Field relevant bibliometric indicators**** as well as research monographs, any translations thereof, **may also be included**. If applicable include: granted patent(s); invited presentations to internationally established conferences and/or international advanced schools; Prizes/Awards/Academy memberships etc. **A short narrative describing the scientific importance of the research outputs and the role played by the Principal Investigator may be included..**

* Preprints should be freely available from a preprint server; they should be properly referenced and either a link to the preprint or a DOI should be provided.

** Except the Journal Impact Factors

Fuente: GfA ERC 2022 AdG, p.24

¹ Please list the order of authors as indicated in the original publication

¹ Please list the order of authors as indicated in the original publication

(Present the last 10-years track-record; if longer, indicate relevant career breaks in section b (ERC WP 2022, p.21-22)).

ERC AdG achievements track record (last 10 Years)

(Record of achievements appropriate to the field and at least matching one or more of the following benchmarks)

Up to 10 representative publications as main author in major international p-r multi-disciplinary scientific journals and/or in the leading international p-r journals and p-r conference proceedings of their respective research fields

Up to 3 major Research monographs and any translations thereof

+

5 Granted patents

10 Invited presentations to internationally established conferences and/or international advanced schools

3 Research expeditions that the applicant PI has led

- **International recognition** through scientific or artistic **prizes/awards** or membership in well-regarded Academies or **artefact with documented use** (for example, architectural or engineering design, methods or tools);

- **Organisation of international conferences** in the field of the applicant (membership in the steering and/or organising committee)

- **Major contributions to** launching the careers of outstanding Researchers

- **Examples of innovation leadership**

Section B1c 10 Years track-record

- Opening Paragraph

Part B1

Section C: Ten years track-record (max. 2 pages)

My citation record from ISI is at the left. About 1000 citations, out of a total of 4800, correspond to papers published during the past ten years. During this time I was elected member of the Spanish Royal Academy of Sciences (which has 42 members), and member of the Royal Academy of Engineering (46 members). In the list of references below, the authors ordering is alphabetical except for major contributions. In particular, del Álamo, Hoyas, Leonzo-Duque, Minson and Simons were at the time my students at postdoc.

Ten recent publications [citations]

1. "The three-dimensional structure of momentum transfer in turbulent channels", A. Leonzo-Duque, O. Flores and J. Jiménez, *J. Fluid Mech.*, 694:100–130 (2012) [13]
2. "Cascades in wall-bounded turbulence", J. Jiménez, *Ann. Rev. Fluid Mech.*, 44:27–45 (2012) [36]
3. "Turbulent boundary layers and channels at moderate Reynolds numbers", J. Jiménez, M.P. Simons and Y. Minson, *J. Fluid Mech.*, 657:335–360 (2010) [48]
4. "A high-resolution code for turbulent boundary layers", M.P. Simons, J. Jiménez, S. Hoyas & Y. Minson, *J. Comput. Phys.* 228:4218–4233 (2009) [66]
5. "Reynolds number effects on the Reynolds-stress budgets in turbulent channels", S. Hoyas & J. Jiménez, *Phys. Fluids* 20:103511 (2008) [93]
6. "Turbulent fluctuations above the buffer layer of wall-bounded flows", J. Jiménez & S. Hoyas, *J. Fluid Mech.* 611:215–234 (2008) [69]
7. "Scaling of the velocity fluctuations in turbulent channels up to $Re_\tau = 3009$ ", S. Hoyas & J. Jiménez, *Phys. Fluids* 18:011702 (2006) [327]
8. "Self-similar vortex clusters in the logarithmic region", J. C. del Álamo, J. Jiménez, P. Zandavalle & R.D. Moser, *J. Fluid Mech.* 561:329–358 (2006) [93]
9. "Linear energy amplification in turbulent channels", J. C. del Álamo & J. Jiménez, *J. Fluid Mech.* 559:205–213 (2006) [68]
10. "Scaling of the energy spectra of turbulent channels", J. C. del Álamo, J. Jiménez, P. Zandavalle & R. D. Moser, *J. Fluid Mech.* 500:135–144 (2004) [228]

Some invited talks and courses since 2004 (out of 37 in that period)

1. "A numerical guide to turbulence theory", IUTAM Symp. Adv. in Comput., Goa, IN, Dec 15, 2014.
2. "A turbulent cascade of eddies", SPAM Wk. Turb. Eng. Appl., Los Angeles CA, Nov. 17, 2014.
3. "Model- vs. data-driven turbulence theories", ITI 2014, Bertinoro IT., Sept. 21, 2014.
4. "Turbulence in shear flows", Int. Symp. Math. Theories of turbulence, Bonn JP, March 3, 2014.
5. "How linear is wall-bounded turbulence?", High-Re Bound. Layers, Durham NH, Nov. 20, 2013.
6. "The logarithmic layer of wall-turbulence", Fluid Dyn 2013, Bangalore IN, June 18, 2013.
7. "The logarithmic layer of wall-bounded turbulent flows", Sectional Lect. in APS Div. Fluid Dyn, San Diego CA, Nov. 18, 2012.
8. "Wall turbulence", Pomeroy Lecture, UC San Diego, La Jolla CA, USA, June 4, 2012.
9. "Microscale turbulence and interactions with organisms", Microstreaming modulating biological interactions in the ocean, Aspen CO, USA, Jan. 17, 2011.
10. Tutorial on "Turbulent boundary layers and channels", CTR Sum. School, Stanford Univ., July 2010.
11. "Direct simulations of wall-bounded flows", Eurostat 2010 & LES & Emuladores NL, July 7, 2010.
12. "Supercomputing requirements for turbulence simulations", Kick-off Swedish e-Science Course, Stockholm SE, April 22, 2009.
13. "Simulation results in wall-bounded turbulence", Nordita School on Boundary Layers, Stockholm SE, April 16, 2009.
14. "Inner-outer interactions in wall turbulence", Int. Conf. Turb. Simulat., Marseille FR, June 1, 2009.
15. "Direct numerical simulations of turbulent flows", IUTAM Symp., Pasadena CA, May 28, 2009.
16. "Numerical simulations of turbulent flows", Int. Symp. Math. Simulations in Sci. and Technology, Sevilla Acad. Sci. ES, Feb. 29, 2009.

Part B1

17. "Prospects and recent accomplishments in simulating wall-bounded turbulence", Int. Symp. Frontier Comput. Sci., Nagoya JP, Nov. 27–29, 2008.
18. "Introduction to transition", Workshop on Wall-bounded shear flows: Transition and Turbulence, 1 Newton Inst. Cambridge UK, Sept. 8, 2008.
19. "Computational evidence for the stress-carrying structures in the logarithmic layer", NSF Workshop on Physics, Monterey CA, March 13, 2008.
20. "Self-similarity and coherence in the turbulent cascade", 15th Abu-Saba's Workshop, 'Extreme events', Helsinki FI, Jan. 23–26, 2007.
21. "Contributions and challenges of computational turbulence research", IUTAM Symp. on Comput. Phys. new Perspectives in Turbulence, Nagoya JP, Sept. 11–14, 2006.
22. "Recent results from the direct simulation of turbulent flows", Works. for P. Lax and L. Nirenberg, Toledo ES, June 7, 2006.
23. Course on "The numerical computation of turbulence", Canberra AU, Jan. 16–18, 2004.
24. "Results from computational turbulent channels at experimental Reynolds numbers", 15th Australian Fluid Mech. Conf., Sydney AU, Dec. 13, 2004.

Organization of Scientific meetings:

2015 Chair: 2nd Multiscale Summer School on Turbulence (1 month, expect 50–60 part.) Madrid, Spain

2015 Co-Chair: Eurostat Coll. Coherent structures in turbulence (3 days, expect 40–50 part.) Madrid, Spain

2015 Chair: 1st Multiscale Summer School on Turbulence (1 month, 55 part.) Madrid, Spain

2012 Chair: Int. Workshop on Turbulent-Nonlinear Interface (2 days, 20 part.) Madrid, Spain

Other awards and activities:

- Elected Fellow: European Mechanics Society (Eurostat, 2014), *Institute of Physics London* (2004)
- Scientific Comm. ERCOFTAC (2006), Tech. Advisory Comm. Von Karman Inst., Brussels (2010).
- Priorization Commis. PRACE, European Supercomputing Network (2014).
- ERC CoF grant (2013–2015).

Postdocs and students:

During the past ten years I have supervised 11 PhD theses. Six are still in progress, of which two are scheduled to defend this academic year. Of the five who have defended during this time, one is an associate professor at UCSD La Jolla, after postdocing at Harvard, one is a lecturer at the U. Carlos III in Madrid, after postdocing at Seattle, one is a lecturer at Cambridge, after postdocing at Stanford, one is working at the European patent office at The Hague (but still active in research), and one is still a postdoc with us. I have hosted six external postdocs, two of them still with us. One (Spanish) is an associated professor at U. Polit. Valencia, another one (Japanese) is assistant professor at Tohoku U., Kyoto, another one (Turkish) is assistant professor at the Istanbul Tech. U. and a final one (US) is doing a second postdoc at the U. Florida Gainesville. As part of the Multiscale project, we have hosted eight faculty visitors for periods longer than a month, mostly at the junior level. Several of them are still working on joint publications with our students or postdocs. At least in one case (Holmer, originally a visiting postdoc but now faculty at ETH Zurich), the relationship has resulted in one of my students visiting him for a month to finish a joint paper. There have also been about four master theses during that time. Mostly, they have continued at local PhD students, but one is now pursuing her PhD at Caltech.

Section B1c 10 Years track-record

- Personal Statements

Carling

Part B1

FUMI

Section c: Early achievements track-record

Since my first peer-reviewed article in 2002, I have gradually achieved internationally recognition as a leading scholar of migration. My primary areas of expertise have been **migration processes** and the subsequent **transnational practices**. I have maintained a disciplinary identity as a human geographer, but also engaged extensively with migration research in a range of other disciplines, reflected, for instance, in co-authorship with both economists and anthropologists. Much of my research has been **theoretically oriented**, based on **empirical data**. I have invested in **broad methodological competence**, yielding expertise in both ethnographic fieldwork and survey data collection, and command of corresponding specialized software (*Stata*, *NVivo*).

Fuente: Pathways to an ERC Grant: Learning from Success and Failure . Jørgen Carling. Peace Research Institute Oslo (PRIO)
<https://jorgencarling.files.wordpress.com/2019/10/carling-erc-cv-and-track-record.pdf>

Section B1c 10 Years track-record

- Short narrative describing the scientific importance of the research outputs and the role played by the PI

Baroni

Part B1

ALiEN

Section c: Ten years track-record

Publication profile

Publications with ≥ 100 Google Scholar citations (since September 2010): 17

10 significant publications since Sept. 2010 (GS citation counts in parenthesis, retrieved on July 22nd 2020):

- M. Baroni** and A. Lenci. 2010. Distributional Memory: A general framework for corpus-based semantics. *Computational Linguistics* 36(4), **2020 10-year ACL test-of-time award** (700). **Significance:** *Early work on general-purpose induction of distributed linguistic representations from data, also establishing the methodology of wide-range linguistic probing of the knowledge encoded in such representations.*
- M. Baroni** and R. Zamparelli. 2010. Nouns are vectors, adjectives are matrices: Representing adjective-noun constructions in semantic space. *Proceedings of EMNLP*, **2020 10-year ACL test-of-time award nomination** (497). **Significance:** *Early work on compositionally deriving distributed representations of phrases, anticipating deep learning models developed for the same purpose.*
- E. Bruni, N. Tran and **M. Baroni**. 2014. Multimodal distributional semantics. *Journal of Artificial Intelligence Research* 49, **2017 IJCAI-JAIR best paper prize for the preceding 5 years** (644). **Significance:** *The pioneering work of my team on learning multimodal concept representations from visual and textual data is summarized in this article.*
- M. Baroni**, G. Dinu and G. Kruszewski. 2014 Don't count, predict! A systematic comparison of context-counting vs. context-predicting semantic vectors. *Proceedings of ACL* (1322). **Significance:** *This was one of the first papers demonstrating the power of new-generation neural-network-based word embeddings, proposing several tests that became standard in the community.*
- T. Mikolov, A. Joulin and **M. Baroni**. 2016. A roadmap towards machine intelligence. *Proceedings of CICLing* (90). **Significance:** *An extended "vision" paper on the central role of communication for flexible AI.*

Section B1c 10 Years track-record

- **H-index**

ERC guide for applicants: ***“field-relevant bibliometric indicators may also be included”.***

- Sólo si agregan valor a su presentación como investigador/a.
Sólo indicadores que sean relevantes para tu campo.
- Si el H-Index no es relevante para el campo, no lo uséis. Si hay una alternativa mejor, usad esa. Si no, no mencionar ningún indicador.

Las BD usadas para su cálculo influyen el resultado (ISI, Scopus, GoogleScholar)

Sesgo según la disciplina: es más válido para Ciencias de la vida, Química, Física y perjudica a las ingenierías y las ciencias sociales.

Aquellas disciplinas que se manejen en base a monografías (por ej. SH) o actas de congresos (computer sciences) se verán perjudicadas porque no están bien representadas en las BD que calculan el H-index.

Section B1c 10 Years track-record

- Bibliometry

de la Croix

ERC-2019-AdG – B1

UTHC

Section c: Ten-year track record

BIBLIOMETRY (July 22, 2019)

5,079 citations (G. Scholar), 1,487 citations in Scopus.

h-index: 33 according to G. Scholar, 18 according to Scopus.

In **Repec**, among the top 1% authors at the world level according to 38 criteria, among which: Number of Distinct Works, Number of Citations, h-index, Number of Journal Pages, Strength of students.

TOP 10 SCIENTIFIC PUBLICATIONS in the last 10 years

Baudin T., De la Croix D., and P. Gobbi, Endogenous Childlessness and Stages of Development, **Journal of the European Economic Association**, forthcoming.

Measures the importance of opportunity driven and poverty driven childlessness in 36 developing countries with a structural model of fertility and marriage. Shows that the endogenous response of marriage and childlessness matter for determining the impact of social progress.

De la Croix D., M. Doepke, and J. Mokyr, Clans, Guilds, and Markets: Apprenticeship Institutions and Growth in the Pre-Industrial Economy., **Quarterly Journal of Economics**, **133**, 1-70, 2018.

Compares growth under alternative institutions to deal with the moral hazard problem in master-apprentice relationship. Guilds and market-based systems allow knowledge to cross the family/clan boundaries. Guild adoption is more likely when initially in a nuclear family system.

De la Croix D. and F. Perrin, French Fertility and Education Transition: Rational Choice vs Cultural Diffusion, **European Economic Review**, **108**, 221-245, 2018.

Studies the French fertility and education transition in nineteenth century. Determines how much a structural rational-choice model can explain and show that additional insights are gained by considering cross county differences in family structure.

Fuente: https://perso.uclouvain.be/david.delacroix/erc/UCL_delaCroix_UTHC_AdG_2019_B1.pdf

Section B1c 10 Years track-record

- The particularities of your field research

Top ten publications in the last ten years

Note: In my field, the top conferences are ACM CHI and ACM UIST. Publication in these conferences is considered as prestigious as in the top journals in the field (ACM TOCHI, IJHCS). I work collaboratively with students and colleagues. As the most senior researcher, my name is usually last in the list of authors. However I only co-sign papers for which I have substantially contributed to both the work and the writing.

My application in 2014

The followings are five selected papers. ...

Improvement in 2016

In theoretical computer science, the most important venues of publications are conferences and not journals. STOC and FOCS are widely recognized as the most prestigious conferences in the field worldwide. I have published X papers in FOCS and STOC ...

The followings are five selected papers. ...

Section B1c 10 Years track-record

Carling Part B1 FUMI

Section c: Early achievements track-record

Since my first peer-reviewed article in 2002, I have gradually achieved internationally recognition as a leading scholar of migration. My primary areas of expertise have been **migration processes** and the subsequent **transnational practices**. I have maintained a disciplinary identity as a human geographer, but also engaged extensively with migration research in a range of other disciplines, reflected, for instance, in co-authorship with both economists and anthropologists. Much of my research has been **theoretically oriented**, based on **empirical data**. I have invested in **broad methodological competence**, yielding expertise in both ethnographic fieldwork and survey data collection, and command of corresponding specialized software (Stata, NVivo).

PUBLICATION AND CITATION STATISTICS

I have published **27 articles** in international peer-reviewed journals and **14 book chapters**. About half have been single-authored. In addition, I have co-edited **four special issues** of international peer-reviewed journals and **two books**, and written about 30 non-peer-reviewed scientific reports and briefs. In total, my publications have **3440 citations** in Google Scholar and **820 citations** in Scopus, excluding self-citations. My **h-index** is **28** in Google Scholar and **14** in Scopus.

RESEARCH COMMUNICATION

I have become increasingly committed to excellence in research communication, and followed up on this commitment through learning, teaching, and practice. For my own research, I have acquired skills in visualization techniques, video production, and social media. I have developed a personal web site (jorgencarling.org), an online resource on the moving of "migrants" (moving-the-geography.org) and a research-oriented Twitter account with 3400 followers (@twitter.com/jorgencarling). I have also contributed to influential blogs, including the *ISI Impact Blog* and the *World Economic Forum Agenda*.

SELECTED ACHIEVEMENTS



Front-page feature on international migration in *The New York Times* based on my PhD research (2007)



Award of largest-ever project grant in the welfare research area of the Research Council of Norway (2010)



Co-editing the 50th Anniversary issue of the *International Migration Review*, the most prominent journal in my field (2014)



Discovery of "script" as a conceptual tool for making sense of the social dynamics of remittances (2014)



Invitation to serve as expert panelist on migrant smuggling, United Nations, Vienna (2017)

KEYNOTE LECTURES (PAST THREE YEARS)

- 2018 *Unity and diversity in contemporary international migration*. Keynote lecture, Oslo Interdisciplinary Conference on Migration: Vulnerability, Protection, and Agency, University of Oslo, Norway.
- 2017 *Migrant smuggling issues, patterns and policy challenges*. Keynote lecture, Istanbul Regional Conference on Counter Migrant Smuggling, International Organization for Migration, Istanbul.
- 2016 *Unravelling the causes of migration*. Keynote lecture, The Hugo Conference: Environment, Migration, Politics, University of Liège.
- 2016 *What is transnational? Exploring the ontologies of an evocative adjective*. Keynote lecture, New Perspectives on Transnational Living, University of Maastricht.

SELECTED INVITED PRESENTATIONS (PAST THREE YEARS)

- 2018 *The complexity of global migrations*. Invited lecture for the Ada Mediterranea inter-university lecture series, European Institute of the Mediterranean, Barcelona, Spain.
- 2017 *How does migration arise?* Invited presentation, International Organization for Migration Council, Geneva, Switzerland.
- 2017 *Remittance and migration*. Invited lecture in research seminar series, Department of Sociology, Hitotsubashi University, Japan.
- 2015 *Migration as imagination*. Invited seminar, Sussex Centre for Migration Research and Department of Geography, University of Sussex, United Kingdom.

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Carling Part B1 FUMI

SELECTED PUBLICATIONS (REVERSE CHRONOLOGICAL ORDER)

	Carling, J. and Schewel, K. (2017), online ahead of print) 'Revisiting aspiration and ability in international migration,' <i>Journal of Ethnic and Migration Studies</i> 43.	An analytical review article that examines bottlenecks and potential in migration research over the past fifteen years, identifies 'two-step approaches' and informs the current proposal.
	Carling, J. (2014) 'Scripting remittances: making sense of money transfers in transnational relationships,' <i>International Migration Review</i> , 48:3218-3262.	A theory-building article that draws upon more than 100 ethnographic studies of migrant remittances and makes sense of the dynamics at work by invoking the sociological concept of 'script'.
	Carling, J., Fodai, M.B., and Ezrati, R. (2014) 'Beyond the insider-outsider divide in migration research,' <i>Migration Studies</i> , 2(1):36-54.	A jointly authored article in which we draw upon personal experience to examine the role of the researcher's background in migration research. The article is currently on reading lists at several universities worldwide.
	Carling, J. and Puterman, S.V. (2014) 'Between migration intentions in the integration-transnationalism matrix,' <i>International Migration</i> , 52(4):13-30.	An empirical article on return migration that introduces an inductive framework for studying relations between integration and transnationalism.
	Carling, J. and Hernández-Carretero, M. (2011) 'Protecting Europe and protecting migrants?' <i>British Journal of Politics and International Relations</i> , 13(1):42-58.	A theoretical explanation of why constitutional surveillance and control has become a preferred approach to migration management. The refugee crisis of 2015-16 gave the article renewed relevance, reflected in citations.
	Carling, J. (2008) 'The human dynamics of migrant transnationalism,' <i>Ethnic and Racial Studies</i> , 31(8):1432-1477.	An ethnographically based analysis of unequal relationships between migrants and the people they leave behind. It is referenced in the work of the foremost scholars in the field, including R.King, P.Levitt, C.Mazumbar, and B.Yank.
	Carling, J. (2008) 'The determinants of migrant remittances,' <i>Oxford Review of Economic Policy</i> , 24(3):582-599.	A review article that systematizes approaches to statistical analysis of the determinants of remittances. It quickly became a recurrent reference in new empirical work in economics and other disciplines.
	Carling, J. (2007) 'Migration control and migrant fatalities at the Spanish-Africa borders,' <i>International Migration Review</i> , 41(2):316-343.	The first systematic analysis of migrants' risk of dying at sea along Europe's southern borders. The article informed the growth of research on the dynamics of migrant smuggling and migrant fatalities in Europe.
	Hansen, H.O. and Carling, J. (2005) 'On the edge of the Chinese diaspora: The surge of business in an African city,' <i>Ethnic and Racial Studies</i> , 28(4):639-662.	An early study of Chinese economic expansion in Africa. This article became a key reference for the burgeoning study of China-Africa relations in the decade that followed its publication.
	Carling, J. (2002) 'Migration in the age of involuntary immobility: theoretical reflections and Cape Verdean experiences,' <i>Journal of Ethnic and Migration Studies</i> , 28(1):5-42.	A key theoretical contribution to migration studies, focused on the aspiration/ability model and the notion of involuntary immobility. This article is cited with increasing frequency after fifteen years, rising to 63 citations in 2017.

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Fuente: Pathways to an ERC Grant: Learning from Success and Failure . Jørgen Carling. Peace Research Institute Oslo (PRIO)
<https://jorgencarling.files.wordpress.com/2019/10/carling-erc-cv-and-track-record.pdf>

Section B1c 10 Years track-record

- Selected Achievements
- Selected Publications

SELECTED ACHIEVEMENTS



Front-page feature on international migration in *The New York Times* based on my PhD research (2007)



Award of largest-ever project grant in the welfare research area of the Research Council of Norway (2010)



Co-editing the 50th Anniversary Issue of the *International Migration Review*, the most prominent journal in my field (2014)



Discovery of 'scripts' as a conceptual tool for making sense of social dynamics in remittances (2017)



SELECTED PUBLICATIONS (REVERSE CHRONOLOGICAL ORDER)



Carling, J. and Schewel, K. (2017, online ahead of print) '**Revisiting aspiration and ability in international migration.**' *Journal of Ethnic and Migration Studies*:1-19.

Google Scholar citations: 3



Carling, J. (2014) '**Scripting remittances: making sense of money transfers in transnational relationships.**' *International Migration Review*, 48:S218-S262.

Google Scholar citations: 58



Carling, J., Erdal, M.B. and Ezzati, R. (2014) '**Beyond the insider-outsider divide in migration research.**' *Migration Studies*, 2(1):36-54.

Google Scholar citations: 77

An analytical review article that examines bottlenecks and potential in migration research over the past fifteen years, identifies 'two-step approaches' and informs the current proposal.

A theory-building article that draws upon more than 100 ethnographic studies of migrant remittances and makes sense of the dynamics at work by invoking the sociological concept of 'scripts'.

A jointly authored article in which we draw upon personal experience to examine the role of the researcher's background in migration research. The article is currently on reading lists at several universities worldwide.

Fuente: Pathways to an ERC Grant: Learning from Success and Failure . Jørgen Carling. Peace Research Institute Oslo (PRIO)

<https://jorgencarling.files.wordpress.com/2019/10/carling-erc-cv-and-track-record.pdf>

ERC ADG 2022

Proposal B1a + B2

ERC

Abstract

Applicant's last name

Part B1

ACRONYM

ERC Advanced Grant 2019
Research proposal [Part B1]¹
(Part B1 is evaluated both 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)
- Name of the PI's host institution for the project
- Proposal duration in months

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. in English.
- Up to 2000 characters (spaces and line breaks included).
- No confidential information
- Identical to A forms

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

Applicant's last name

Part B1

ACRONYM

ERC Consolidator Grant 2020

Research proposal [Part B1]¹

Fuse-based segmentation design: Avoiding
failure propagation in building structures
ENDURE

Cover Page:

- Name of the Principal Investigator (PI)
- Name of the PI's host institution for the project
- Proposal duration in months

José Miguel Adam
UPV

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.



¹ Instructions for completing Part B1 can be found in the "Information for Applicants to the Advanced Grant 2019 Call".

Ejemplo ficticio de portada con
proyecto financiado

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	AdG-2020		
Proposal title	<i>The title should be no longer than 200 characters (with spaces) and should be understandable to the non-specialist in your field.</i> <i>Note that for technical reasons, the following characters are not accepted in the Proposal Title and will be removed: < > * &</i>		
Duration in months			
Primary ERC Review Panel*	LS6 - Immunity and Infection		
Secondary ERC Review Panel	(if applicable)		
ERC Keyword 1*	As first keyword please choose one which is linked to the Primary Review Panel. <i>Please select, if applicable, the ERC keyword(s) that best characterise the subject of your proposal in order of priority.</i>		
ERC Keyword 2	Not applicable		
ERC Keyword 3	Not applicable		
ERC Keyword 4	Not applicable		
Free keywords	<i>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.</i>		

	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

The screenshot shows the 'Proposal Submission Forms' page for the European Research Council Executive Agency. It includes a header with the ERC logo and the agency name. Below this, a blue bar displays the 'Proposal ID' as SEP-210680754 and the 'Acronym' as AdG-2020. The main section is titled 'Abstract*' and contains a large text area for the 'Short Summary'. At the bottom of this section, it indicates 'Remaining characters' and shows the count '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.

Section 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 limits)

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.

References to literature should also be included. *References to literature should also be included.*

GfA AdG2022 p.23

Section a: Extended Synopsis of the scientific proposal (max. 5 pages) 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).

2

Section B2 (Scientific Proposal) 14 pages

GfA AdG2022 p.24*

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. Highlight 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**, and particularly novel or unconventional aspects addressing the 'high-risk/high-gain' balance. Highlight **any intermediate stages** where results may require adjustments to the project planning.

Applicant's last name

Part B2

ACRONYM

ERC Advanced Grant 2020
Part B2¹
(not evaluated in Step 1)

Part B2 Section a. State-of-the-art and objectives

Section b. Methodology

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

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 now part of the online submission form (Part A, Section 3 - Budget). This section 3 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 Advanced Grant 2020 Call'.

*(see 'Information for Applicants to the AdG2022 Call'– instructions for completing 'Part B' of the proposal)



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**)]

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!

Evaluation criteria AdG2022

Excellence is the sole evaluation criteria applied to the PI + Research Project

Principal Investigator - Intellectual capacity and creativity

- demonstrated the ability to conduct ground-breaking research?
- evidence of creative independent thinking?
- required scientific expertise and capacity to successfully execute the project?
- demonstrated sound leadership in the training and advancement of young scientists? **Only for AdG**

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?
 - are there novel concepts and approaches or development between or across disciplines?
- is the proposed research high risk-high gain?

Scientific Approach

- is the outlined scientific approach feasible....high risk/high gain? (B1)
- are the proposed research methodology and working arrangements appropriate? (B2)
- does the proposal involve the development of novel methodology? (B2)
- are the proposed timescales, resources and PI commitment adequate? (B2)

1st
& 2nd
steps

B1a y
B2

¿Por dónde empezar?

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 limits)

[The Extended Synopsis should give a concise presentation of the scientific proposal, with particular attention to the groundbreaking 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. 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.]

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.

B1

5 pages



Applicant's last name

Part B2

ACRONYM

ERC Advanced Grant 2020

Part B2¹

(not evaluated in Step 1)

Sections (a) and (b) of Part B2 together with section (c) Resources present in the online submission form should not exceed 15 pages. Budget table and 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.

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 now part of the online submission form (Part A, Section 3 - Budget). This section 3 will be extracted and provided to the peer reviewers.

B2

14 pages

¹ Instructions for completing Part B2 can be found in the "Information for Applicants to the Advanced Grant 2020 Call".

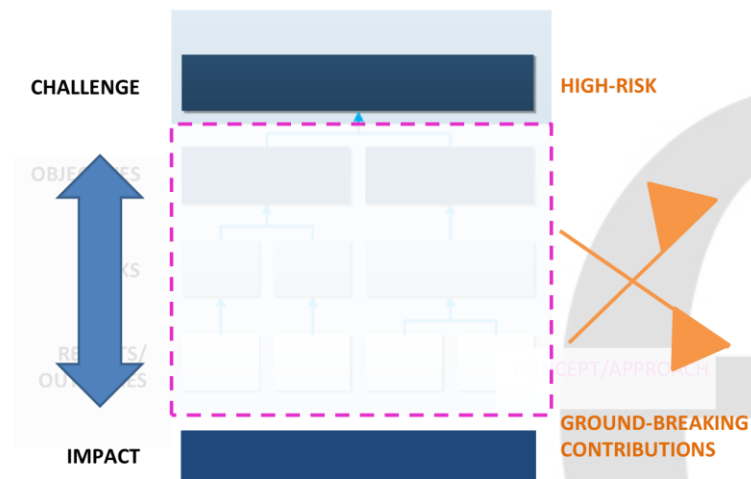
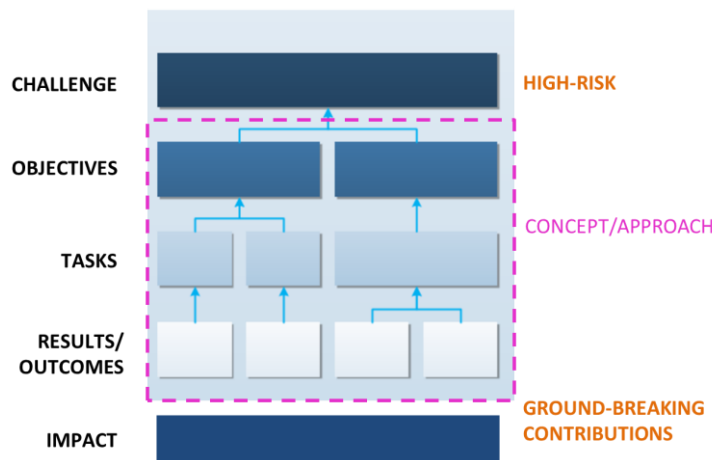


Los templates
del ERC

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



Estructura – 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 approachhigh risk/high gain? (B1)
- research methodology and working arrangements? (B2)
- development of novel methodology (B2)
- timescales, resources and PI commitment adequate? (B2)

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

- high risk-high gain research (B1+B2)

[first page of
your proposal]

1-1,5 pages/5

3 pages/5

0,5-1 pages/5

Estructura – 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)

3,5 pages/14

Scientific Approach

- feasible scientific approachhigh risk/high gain? (B1)
- research methodology and working arrangements? (B2)
- development of novel methodology (B2)
- timescales, resources and PI commitment adequate? (B2)

9 pages/14

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

- high risk-high gain research (B1+B2)

1,5 pages/14

...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?

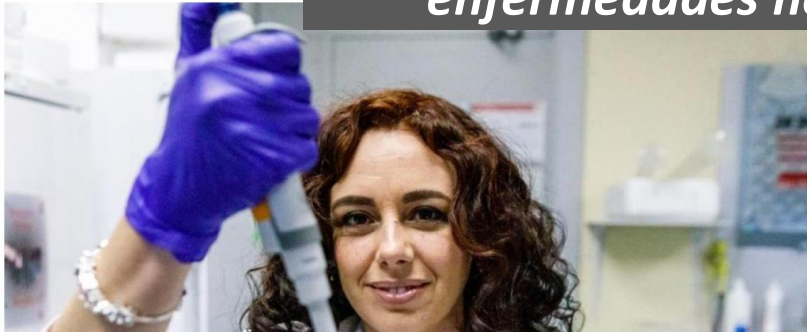
Su trabajo ha acabado con la discusión sobre estas neuronas inmaduras.

Había investigadores que afirmaban la posibilidad de que estas

MARÍA LLORENS-MARTÍN

“Hemos reconstruido la neurogénesis”

• La bióloga del Centro de Biología Molecular ha demostrado que se generan 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

...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.

ROJO = SoA
VERDE =
proyecto

Agrupando
>>

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

References

criterio gráfico
aportaciones al SoA del IP

References (to show CPN-PC issues, in bold PDF)

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2. Wessendorp, A. 3D Technology for commercial aircraft: in 3D-477 for Korean Airlines. Lecture Notes and G. Paganini and J. Sestini (2017).
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Evidencias o datos preliminares (feasiblility)

Publicados o no publicados

... pero siempre del Investigador Principal

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

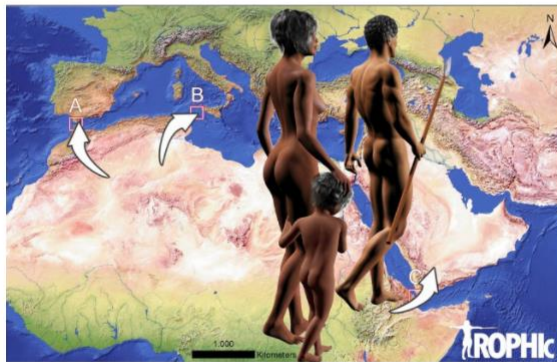
CIENCIAS DE LA VIDA

Los humanos modernos no entraron en Europa cruzando el mar Mediterráneo

Un estudio internacional, con participación española, ha permitido analizar la posible salida marítima de África de los humanos modernos. Los resultados demuestran que los primeros Homo sapiens no pudieron llegar a Europa a través de los estrechos de Gibraltar y Sicilia, sino por el estrecho de Bab-al-Mandab en el Mar Rojo, según un modelo computacional.

📰 🌐 📱 📺

11/2/2022 11:56 CEST



Los estrechos de Gibraltar, Sicilia y Bab-al-Mandab constituyen las tres posibles rutas marítimas para la salida de África y entrada al Eurasio. Fuente: Rodríguez

Existe un largo debate científico sobre las rutas que siguieron los primeros humanos modernos que abandonaron el continente africano. La mayoría de los especialistas piensan que la llegada a Europa se produjo por una ruta terrestre a través del corredor levantino.

Sin embargo, la idea de una posible entrada a través de los estrechos de Gibraltar y Sicilia sigue presente en el debate. Otra posible vía de entrada a Eurasia sería a través del Mar Rojo, cruzando el estrecho de Bab-al-Mandab.

LO MÁS VISTO

Primera detección de átomos de origen en la atmósfera de un asteroide

La llegada de los humanos a América no pudo ser como cuentan los libros

Charles Darwin sí tuvo una idea avanzada sobre el origen de la vida

La teoría sobre el universo que Stephen Hawking dejó antes de morir

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

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

- 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)

- 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

Un abstract....

The hippocampus is crucial for learning and memory and it hosts an extraordinary form of plasticity: **the generation of new neurons throughout life**, a process named adult hippocampal neurogenesis (AHN). Newly generated neurons grow in a specialised niche composed of unique vascular, glial, and neuronal elements. Impaired AHN leads to cognitive dysfunction and mood dysregulation in rodents. **Recent work by my group** reveals the persistence of AHN until the tenth decade of human life, as well as impairment of this process in patients with Alzheimer's disease. **The general aim of HumAN is to unveil the features that confer the human hippocampus with neurogenic potential, thoroughly characterising this niche in adulthood, physiological aging, and pathological conditions (AIM 1), and to identify potentially unique AHN signatures for specific neurodegenerative and psychiatric diseases (AIM 2).** Moreover, **we will determine, for the first time, whether new neurons integrate efficiently into the human hippocampus (AIM 3) and we will interrogate the subcellular machinery of these cells to unravel the mechanisms underlying AHN impairments in these diseases (AIM 4).** The **unprecedented quality** of our collection of human hippocampal **samples**, obtained from **180 individuals** (either controls or with specific neurodegenerative or psychiatric diseases), allows successful application of trail-blazing methodologies such as RNAscope, iterative indirect immunofluorescence imaging (4i)-microscopy, and super-resolution and stimulated emission depleted (STED) nano-resolution microscopy. HumAN will break new ground in the field of AHN by deepening our **understanding** not only of the **mechanisms that control the maturation and synaptic integration of newly generated cells in human beings, but also of the pathophysiology of neurodegenerative and psychiatric diseases, thereby facilitating the identification of potential novel therapeutic targets for these as yet incurable conditions**

HumAN Interrogating Human Adult Hippocampal Neurogenesis
ERC-2020-COG LS5 LLORENS-MARTÍN María

challenge

feasibility

objectives

feasibility

Groundbreaking contributions

...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

[First page of your proposal] (B1+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 approachhigh risk/high gain? (B1)
- research methodology and working arrangements? (B2)
- development of novel methodology (B2)
- timescales, resources and PI commitment adequate? (B2)

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

- high risk-high gain research (B1+B2)

[first page of
your
proposal]

1-1,5 pages/5

3 pages/5

0,5-1 pages/5

[First page of your proposal] (B1+B2)

Description of the State of the Art



vs.

What we want to achieve



[First page of your proposal] = Synthesis

Diferencias entre orden escritura y orden lectura

Proponente: Orden más común de escritura: Abstract + B2 + B1

Revisor: Orden más común de lectura: Abstract + B1 + (B2)

[First page of your proposal] (B1+B2)

The overall aim of *Endure* 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.

To achieve its defined overall aim, *Endure* will have four **specific objectives**:

- ⇒ **Objective 1:** To develop a performance-based approach for the design of fuse-segmented buildings.
- ⇒ **Objective 2:** To design, manufacture and test fuses for segmenting buildings.
- ⇒ **Objective 3:** To implement fuses in segmented building structures and to validate and test the new fuse-based approach in realistic building prototypes.
- ⇒ **Objective 4:** To engage with industry experts and code-issuing entities, and disseminate-communicate the project's outcomes.

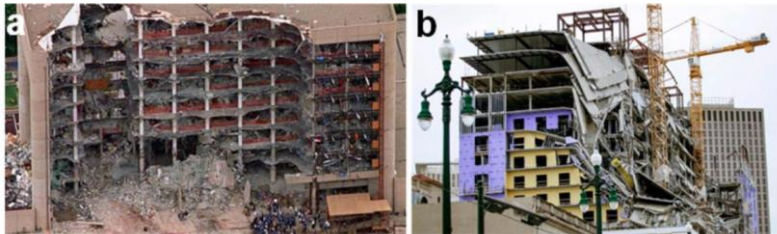


Fig. 1. a) Murrah Federal Building after three columns failed due to a bomb explosion (Oklahoma 1995); b) Hard Rock Hotel after part of the building failed while under construction (New Orleans 2019)

@BldgResilient

Writing an @ERC Research proposal?

First page of your proposal

The key to success

❑ How we made it attractive:

1. A figure showing what we wanted to solve
2. Clearly define the overall aim of the project
3. Objectives associated with the overall aim

Scientific approach

Feasible scientific approach vs. methodology

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 approachhigh risk/high gain? (B1)
- research methodology and working arrangements? (B2)
- development of novel methodology (B2)
- timescales, resources and PI commitment adequate? (B2)

← 3 pages/5



← 9 pages/14

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

- high risk-high gain research (B1+B2)

Scientific approach

Feasible scientific approach vs. methodology

B1

- feasible outlined scientific approach bearing in mind the research is high risk/high gain

3 pages/5

- Concise and clear (5 pages)
- All the essential information
- General overview of the project
- Emphasis on ground-breaking nature
- Feasibility** (≠ 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
- development of novel methodology
- timescales, resources and PI commitment

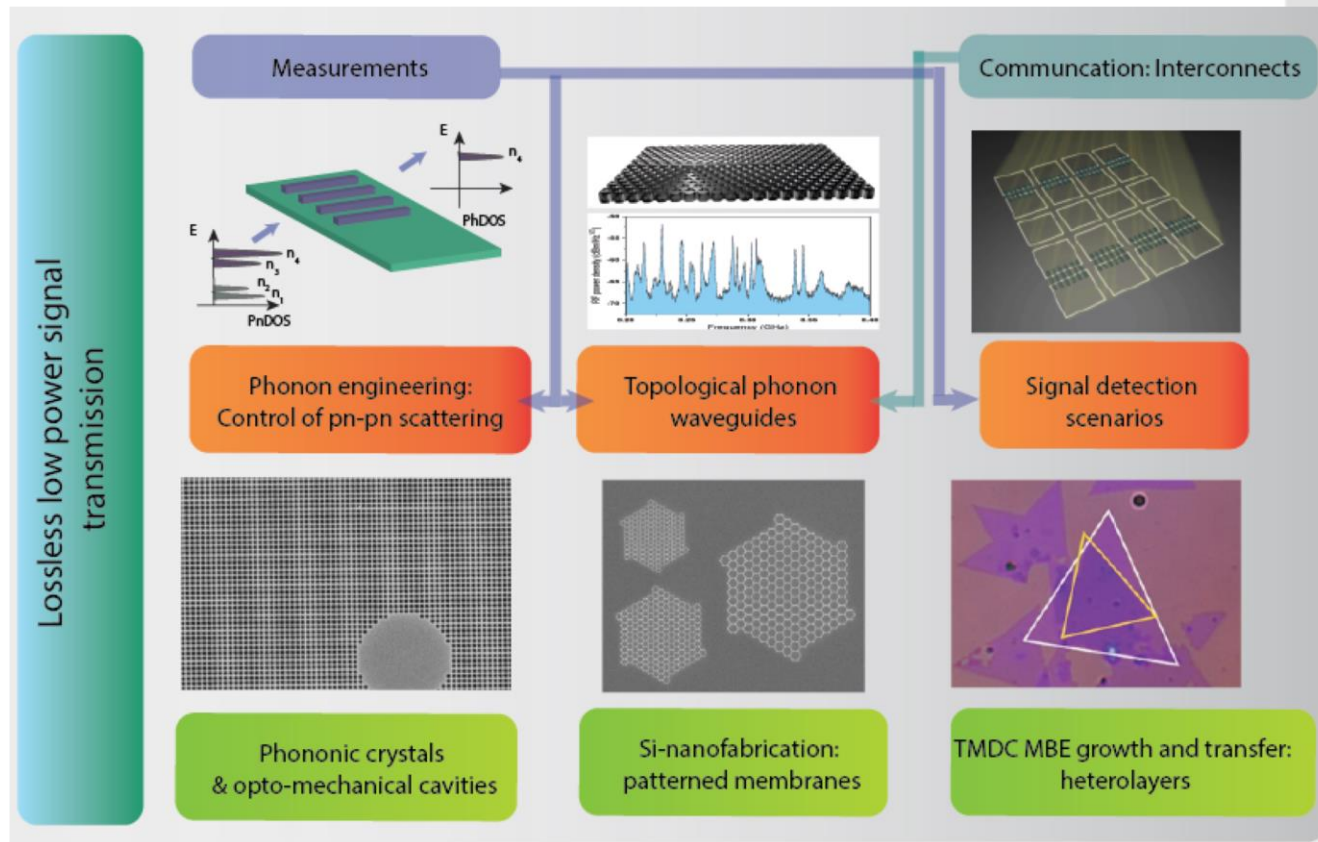
9 pages/14

- 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)

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

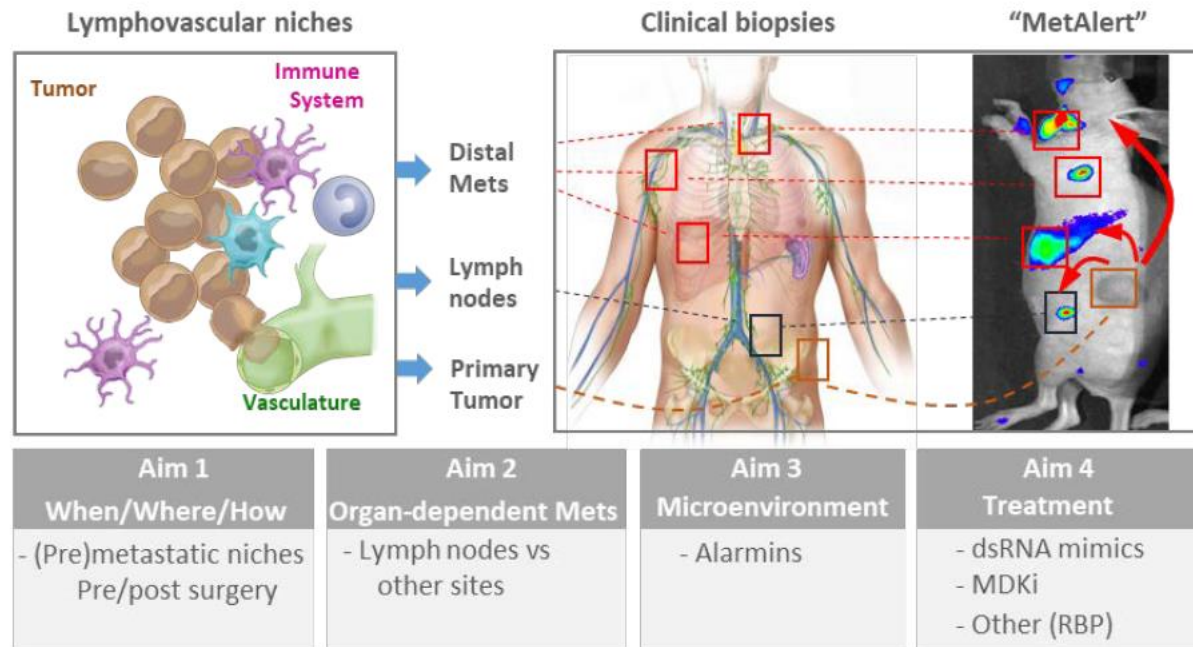
Gráfica/diseño de la metodología investigación

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

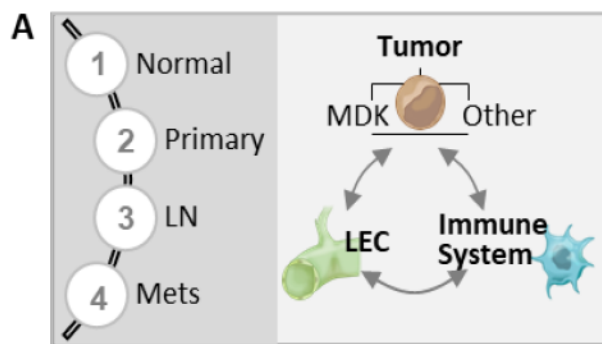
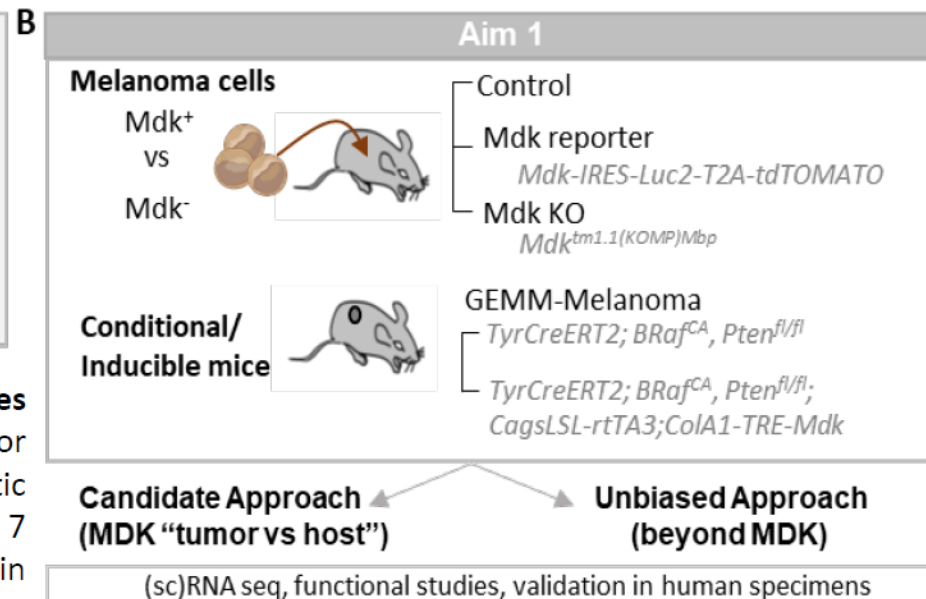


Fig. 5. Rationale (A) and main objectives of Aim1 (B). LN, Mets and LEC stand for lymph nodes, metastasis and lymphatic endothelial cells, respectively. The 7 mouse lines to be used are indicated in grey.



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

Feasible scientific approach vs. methodology (B2)

9 pages/14

- research methodology and working arrangements

- development of novel methodology

- timescales, resources and PI commitment

- 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.
- Known methodology used for the first time in another field
- No new methodology > no high risk > no high gain

- 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)

...high-risk/high-gain research

(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” Odeta 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

The impact

...high-risk/high-gain research

(B1 & B2)

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

Risk table (B2 presents a more detailed risk table)

B1

Risk	Mitigation actions
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).

b.3 Risk table

B2

Risk	Mitigation actions
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

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

...high-risk/high-gain research

(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~~

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/>

Consideraciones finales

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



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

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 /€
	0	0	0	0	0	0.00	0	0	0	0	0	0	0.00	0.00		0.00	0.00	0.00
Total	0	0	0	0	0	0.00	0	0	0	0	0	0					0.00	0.00

Host Institution rules apply!

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

> depreciation costs

C.3 Total other goods, works and services

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

D. Internally invoiced goods and services (no OH)

E. Indirect Costs > 25% Direct Costs flat rate

TOTAL ELIGIBLE COSTS

REQUESTED EU CONTRIBUTION

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 within.
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.

Project Budget

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

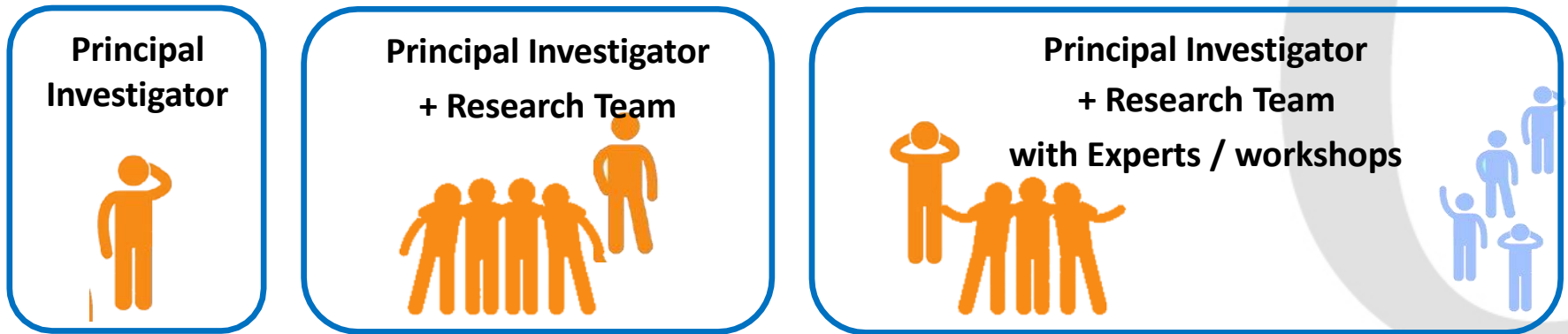
These costs are justified separately in the proposal. There is no definition of “equipment” or “facilities” and all requests will be evaluated by the peer review panel.

Forms A: description of resources + budget table

Part 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.

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*)

Enlaces de interés ERC

Advanced Grants ERC-2022-AdG

- [ERC Work Programme](#)
- [Information for applicants](#)
- [Timeframe Advanced Grant 2022](#)

How to complete your ethics self-assessment: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/how-to-complete-your-ethics-self-assessment_en.pdf

Open Research Data and Data Management Plans

- https://erc.europa.eu/sites/default/files/document/file/ERC_info_document-Open_Research_Data_and_Data_Management_Plans.pdf
- <https://erc.europa.eu/thematic-working-groups/working-group-open-access>
- https://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/open-access-dissemination_en.htm

General Model Grant Agreement Horizon Europe (HORIZON)

- https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/agr-contr/general-mga_horizon-euratom_v1.1_en.pdf

ERC Classes

- <https://www.youtube.com/playlist?list=PLtv6FnsXqnXAYRk6HCErwMxwML0ZKoMcy>

Enlaces de interés ERC

<https://www.horizonteeuropa.es/erc>



Eventos



Noticias



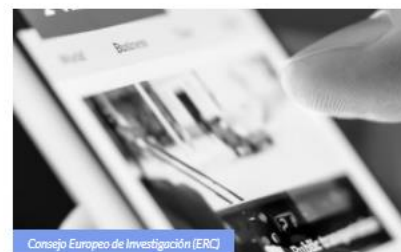
**Presentaciones Jornada Informativa
Nacional Consejo Europeo de
Investigación. Novedades WP 2022**

07 de Octubre de 2021



**Servicio de revisión de propuestas ERC-
Starting Grant 2022**

30 de Septiembre de 2021



**Apertura convocatoria ERC Starting
Grant 2022 | ERC-2022-STG |**

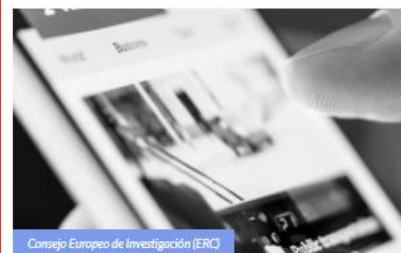
24 de Septiembre de 2021



**Las convocatorias 2022 del Consejo
Europeo de Investigación**



**Propuestas ERC exitosas, financiadas y
en abierto**



**Servicio de revisión de propuestas ERC-
Advanced Grant 2021**

<https://www.horizonteeuropa.es/propuestas-erc-exitosas-financiadas-y-en-abierto>

MUCHAS GRACIAS