Cómo preparar una propuesta ERC-2023

16 Septiembre 2022

Estefanía Muñoz NCPs ERC

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ERC 2023 PROPOSAL

ERC StG&CoG 2023
Proposal B1b, B1c

GOBIERNO DE ESPAÑA MINISTERIO DE CIENCIA E INNOVACIÓN
FECYT INNOVACIÓN
Instituto de Salud Carlos III

Section B1b Curriculum vitae

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

Section b: 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**

200? PhD
Name of Faculty/ Department, Name of University/ Institution, Country
Name of PhD Supervisor
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 (if applicable)**

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

- **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)**

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) _____

(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.

Section B1b Curriculum vitae

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

- **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 Applic):** 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…
- **COVID-19 impact to scientific productivity**
- **Career Breaks**

Section B1b Curriculum vitae

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

POSITION		FUNDING: GRANTS AND FELLOWSHIPS
2013 – 2018	Ramón y Cajal Fellow, Group Leader. ICMol, UV, Spain	**Ramón y Cajal Fellowship** (Spanish government)
2011 – 2013	Research Associate, ICMol, UV, Spain	
2010 – 2011	Marie Curie fellow, ICMol, UV, Spain	**Marie Curie Int. Out. Fellowship**
2008 – 2010	Marie Curie fellow, PITP, UBC, Canada	(CORDIS-FP7)
2007 – 2008†	Postdoctoral fellow, PITP, UBC, Canada	**Postdoctoral Fellowship**, (Spain)
2007†:	Postdoctoral fellow, ICMol, UV, Spain	**Postdoctoral Fellowship** (Valencian regional government)
† : 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	Predoctoral Grant (Valencia)
1998 – 1999	Student Collaborator, Dept. Inorg. Chem, UV, Spain	Collaboration Grant, (Spain)

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

- **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**

- **Invited presentations to internationally established conferences and/or international advanced schools:** Key note speaker/participadas/conf. relevantes en tu campo
- **Research Expeditions:** no son field works/ larga duración/lideradas o participadas
- **Industrial/Architectural Designs**
- **Innovation leadership:** para aquellos campos que tenga una relación directa entre el estudio y la aplicabilidad en el mundo real
- **ALL RELEVANT ACTIVITIES**

Section B1b Curriculum vitae

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 / **FUNDING: GRANTS AND FELLOWSHIPS**

2013 – 2018	Ramón y Cajal Fellow, Group Leader. ICMol, UV, Spain	**Ramón y Cajal Fellowship** (Spanish government)
2011 – 2013	Research Associate, ICMol, UV, Spain	
2010 – 2011	Marie Curie fellow, ICMol, UV, Spain	**Marie Curie Int. Out. Fellowship** (CORDIS-FP7)
2008 – 2010	Marie Curie fellow, PITP, UBC, Canada	
2007 – 2008†	Postdoctoral fellow, PITP, UBC, Canada	**Postdoctoral Fellowship**, (Spain)
2007†:	Postdoctoral fellow, ICMol, UV, Spain	**Postdoctoral Fellowship** (Valencian regional government)
† : 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	Predoctoral Grant (Valencia)
1998 – 1999	Student Collaborator, Dept. Inorg. Chem, UV, Spain	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), JJBJ (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

https://www.uv.es/gaita/decresim.html

CAREER RECORD

33 scientific publications in high-impact peer-reviewed international journals, including:
Nature Nanotechnology[1] (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 my 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):

	coordinator		
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 electronica molecular: del diseño, estudio y procesado 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" *node coordinator:*	R. Winpenny ***A. Gaita***	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 Fujihara 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

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Section B1b Curriculum vitae

COMPUTATIONAL LINGUISTICS RESOURCES

More information: http://gboleda.utcompling.com/resources.

Corpora	**Leader**, Wikicorpus: Freely available Wikipedia-based trilingual corpus (Catalan, Spanish, English), automatically annotated, over 750 million words.
	Coordinator, CUCWEB: 166-million word Web corpus for Catalan, automatically annotated.
Tools	Collaborating researcher, POS-Tagger for Old Spanish. Freely available as part of the open source suite of language analyzers FreeLing.
	Collaborating researcher, CatCG: Tagger and shallow parser for Catalan.
Datasets	**Leader**, four freely available (CC BY-SA) semantic datasets on adjective semantics and regular polysemy.
	Collaborating researcher in a fifth dataset on the semantics of color terms.

https://gboleda.github.io/proposals/B1-AMORE-ERC_StG_2016-def.pdf

Selected publicly available tools and resources

- **WaCky** (with Silvia Bernardini and others): huge linguistically annotated corpora for multiple languages
- **DM** (with Alessandro Lenci): precompiled corpus-based semantic model and utilities
- **Semantic norms** for German and Italian (with Gerhard Kremer)
- **zipfR** (with Stefan Evert): a toolkit for lexical statistics in R
- **BootCaT** (with Silvia Bernardini): a toolkit for bootstrapping corpora and terms from the Web
- **Morph-it!** (with Eros Zanchetta): a free Italian morphological lexicon
- **La Repubblica corpus** (with Silvia Bernardini and others): a large corpus of Italian newspaper text

http://marcobaroni.org/composes/composes_ERC_2011_StG_PartB1.pdf

Section B1b Curriculum vitae

Scientific community activity

- **Referee** for peer-reviewed journal: Physical Review Letters, Angewandte Chem., Advanced Materials, Advanced Functional Materials, Biomaterials, Journal of Materials Research, Materials Research Bulletin, Surface and Coatings Technology, Composites Part A, Crystal Growth and Design, Journal of the American Ceramic Society, Chemical Engineering Journal, International Journal of Applied Ceramic Technology, Biomedical Materials, International Journal of Materials Research, Polymer, Ceramics International, Biomacromolecules, Journal of the Royal Society Interface, Journal of Microscopy, Journal of Chemical Technology & Biotechnology, Acta Materiala, Journal of the European Ceramic Society
- **Contributing editor** for the Journal of the American Ceramic Society
- **Referee** for the French National Research Agency (ANR, 2008 and 2009), NSF career program (2010)
- **Advisory board** for ECERS 2009 and CIMTEC 2011
- **Initiator and co-organizer** of the 1st International and Multidisciplinary Workshop on the Solidification of Colloidal Suspensions (2010, Avignon, France). Co-organized by the CNRS, Saint-Gobain and the University of Oxford

https://figshare.com/articles/journal_contribution/My_successful_ERC_Starting_Grant_Proposal/7110767

Other activities

- **Workshop (co-)organization**: GEMS 2010 (submitted), ESSLI 2008 Distributional Lexical Semantics (Hamburg), Contextual Information in Semantic Space Models at Context 2007 (Roskilde), Web as Corpus 1 (2005, Forlì), 2 (2005, Birmingham) and 3 (2006, Trento)
- The Italian part-of-speech tagger developed by my team was ranked second best in the **EVALITA 2007 evaluation campaign**
- Co-organized the first **CLEANEVAL shared task** for Web page cleaning (2007)
- Co-founder and secretary of the **Special Interest Group** of the Association for Computational Linguistics (ACL) **on Web as Corpus**
- **ESSLLI 2006 course** instructor (with Stefan Evert): Counting words: an introduction to lexical statistics (Malaga)
- I maintain, with Stefan Evert, **SIGIL**, an **online introduction to statistics for linguists**
- In **program committee** of more than 10 international conferences (including ACL, EACL, COLING, IWCS, EMNLP – best reviewer award at EMNLP 2010) and more than 15 international workshops
- **Reviewer** for more than 15 **journals** (including Natural Language Engineering, IEEE Intelligent Systems, Language Resources and Evaluation Journal, Cognitive Linguistics, Europhysics Letters, Artificial Intelligence Journal, Morphology and the Journal of the Acoustical Society of America) and 2 **books**
- **Reviewer** for several **funding agencies**, including the US National Science Foundation and the UK Economic and Social Research Council

http://marcobaroni.org/composes/composes_ERC_2011_StG_PartB1.pdf

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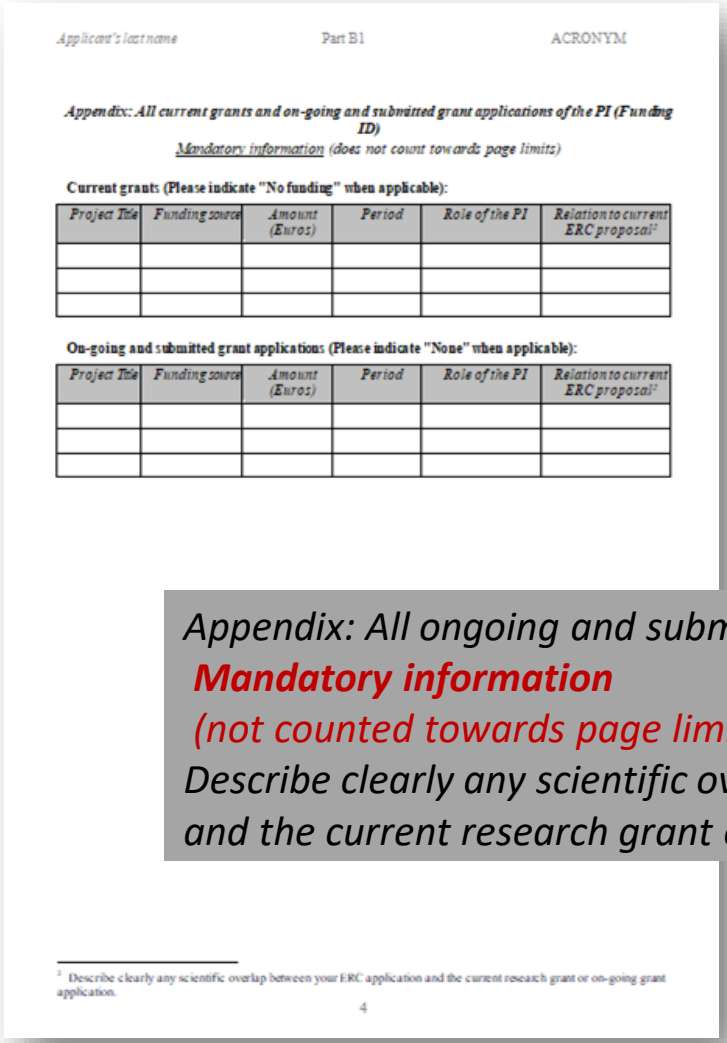
Appendix (Funding ID)



Applicant's last name Part B1 ACRONYM

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

Mandatory information (does not count towards page limits)

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

Project Title	*Funding source*	*Amount (Euros)*	*Period*	*Role of the PI*	*Relation to current ERC proposal*[1]

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

Project Title	*Funding source*	*Amount (Euros)*	*Period*	*Role of the PI*	*Relation to current ERC proposal*[1]

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

4

- Novedad
- Overlap
- Double funding

Appendix: All ongoing and submitted grants and funding of the PI
Mandatory information
(not counted towards page limits)
Describe clearly any scientific overlap between your ERC application and the current research grant or on-going grant application.

Section B1c Early achivements track-record

Section c: Early achievements track-record (max. 2 pages)[3]

[Provide a list of achievements reflecting the Principal Investigator's track record.
You may include a short narrative describing the scientific importance of the research outputs and the role that the Principal Investigator played in their production.

(see 'Information for Applicants to the Starting and Consolidator Grant 2022 Calls' for completing this section)

Do NOT split the sections and/or references in Part B1 and do NOT upload them as separate documents. The peer reviewers will only receive one single document for evaluation at Step 1. Hence, Part B1 should contain all elements as explained in this template and if some parts of Part B1 are uploaded as separate attachments, the peer reviewers will not have access to them.

[3] Please list the order of authors as indicated in the original publication.

Applicant's last name Part B1 ACRONYM

[3] Please list the order of authors as indicated in the original publication.

5

Section B1c Early achivements track-record

(see 'Information for Applicants to the StG+CoG 2023 Call'– 2. completing an application

PIs should list their important achievements (if applicable, ***and in addition to any other scientific achievements deemed relevant by the applicant in relation to their research field and project):***

- ***Most important publications****(up to five for Starting Grant and up to ten for Consolidator Grant) in major international peer-reviewed multi-disciplinary scientific journals and/or in the leading international peer-reviewed journals, peer-reviewed conferences proceedings and/or monographs of their respective research fields, highlighting those as main author and/or without the co-authorship of their PhD supervisor (properly referenced, field relevant bibliometric indicators, except the Journal Impact Factor, may also be included).*

- ***Research monographs*** *and any translations thereof.*

- ***Granted patent(s);*** *invited presentations to internationally established conferences and/or international advanced schools; Prizes/Awards/Academy memberships etc.*

The publications should be properly referenced, including all authors in the published order (Please see section 1.1 on Research integrity).

A short narrative describing the scientific importance of the research outputs and the role played by the Principal Investigator in their production may be included.

Fuente: GfA ERC 2022 StG+CoG. https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/horizon/guidance/information-for-applicants_he-erc-stg-cog_en.pdf

Section B1c Early achivements track-record

(see 'Information for Applicants to the St

PIs should list their important achie
any other scientific achievements
relation to their research field and
- Most important publications(up to
Consolidator Grant) in major intern
scientific journals and/or in the lead
peer-reviewed conferences proceed
research fields, highlighting those a
authorship of their PhD supervisor (
bibliometric indicators, except the J
- Research monographs and any tra
- Granted patent(s); invited present
conferences and/or international ac
memberships etc.

The publications should be properly
published order (Please see section
A short narrative describing the sci
and the role played by the Principa
included.

Fuente: GfA ERC 2022 StG+CoG. https://ec.eur
2027/horizon/guidance/information-for-applica

Early achievements track record

1. ***Up to five/up to ten* publications** *in* ***major international peer-reviewed multi-disciplinary scientific journals*** *and/or in the* ***leading international peer-reviewed journals, peer-reviewed conferences proceedings and/or monographs*** *of their respective research fields, highlighting those as main author or without the presence as co-author of their PhD supervisor (properly referenced, field relevant bibliometric indicators may also be included);* ***preprints*** *may be included, if* ***freely available*** *from a preprint server (preprints should be properly referenced and either a link to the preprint or a DOI should be provided);*
2. ***Research monographs and any translations thereof;***
3. ***Granted patent(s);***
4. ***Invited presentations to internationally established conferences*** *and/or* ***international advanced schools;***
5. ***Prizes, awards, academy memberships.***

Fuente: WP ERC 2022

Evaluation criteria 2023 individual schemes

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? Only for StG and CoG
- 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 - Gro

Ground-breaking nature

- does the proposed re
- are the objectives am
  are there no
- is the proposed resea

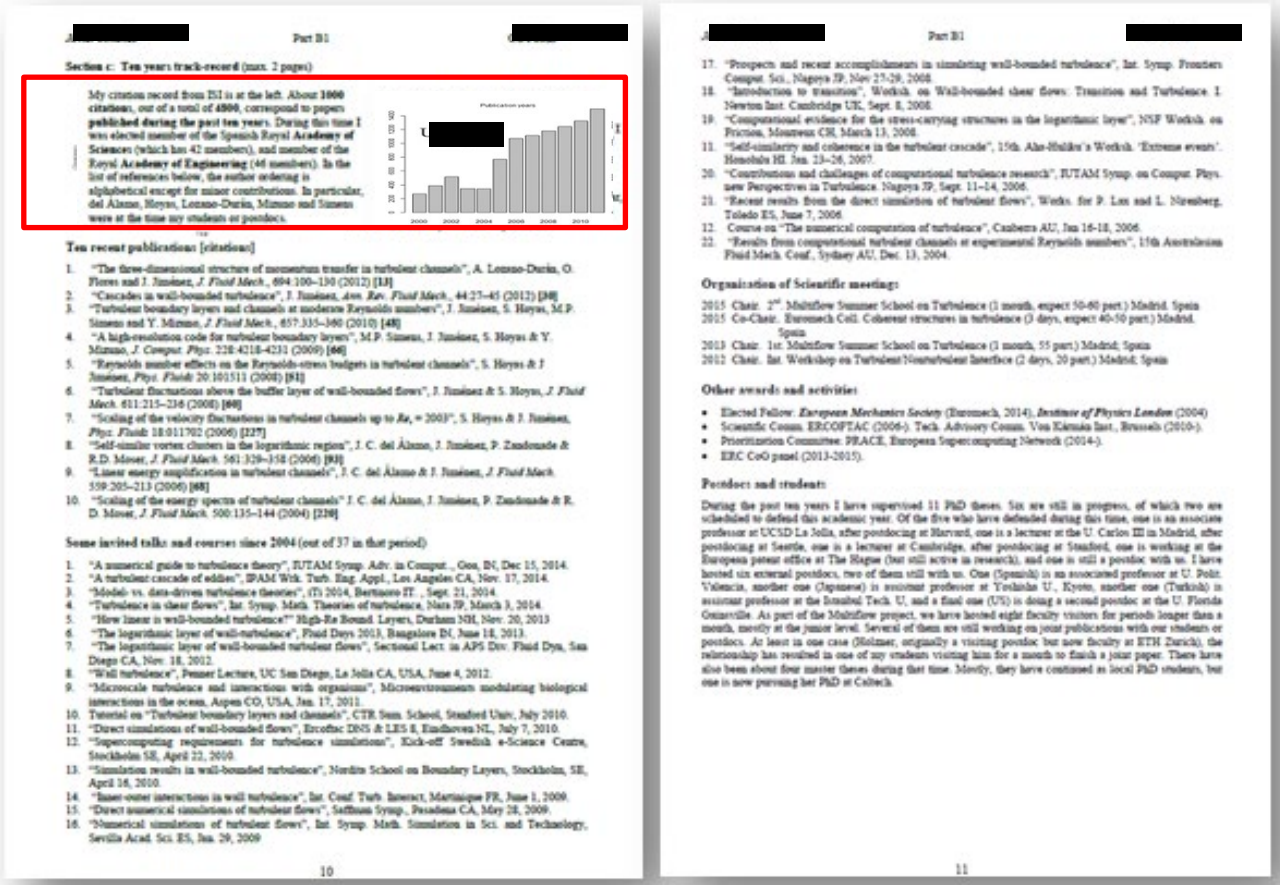
Scientific Approach

- 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)

- **Independencia**
- **Capacidad de liderazgo**
- **Originalidad del trabajo anterior**
- **Importancia del proyecto y del momento**
- **Mi entorno/mi posición/mi momento son los adecuados**

Section B1c Early achivements track-record

- **Opening Paragraph**



[redacted] Part B1 [redacted]

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 author ordering is alphabetical except for minor contributions. In particular, del Álamo, Hoyas, Lozano-Durán, Mizuno and Simens were at the time my students or postdocs.

Ten recent publications [citations]

1. "The three-dimensional structure of momentum transfer in turbulent channels", A. Lozano-Durán, 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) [38]
3. "Turbulent boundary layers and channels at moderate Reynolds numbers", J. Jiménez, S. Hoyas, M.P. Simens and Y. Mizuno, *J. Fluid Mech.*, 657:335–360 (2010) [48]
4. "A high-resolution code for turbulent boundary layers", M.P. Simens, J. Jiménez, S. Hoyas & Y. Mizuno, *J. Comput. Phys.* 228:4218–4231 (2009) [66]
5. "Reynolds number effects on the Reynolds-stress budgets in turbulent channels", S. Hoyas & J. Jiménez, *Phys. Fluids* 20:101511 (2008) [91]
6. "Turbulent fluctuations above the buffer layer of wall-bounded flows", J. Jiménez & S. Hoyas, *J. Fluid Mech.* 611:215–236 (2008) [60]
7. "Scaling of the velocity fluctuations in turbulent channels up to $Re_\tau = 2003$", S. Hoyas & J. Jiménez, *Phys. Fluids* 18:011702 (2006) [127]
8. "Self-similar vortex clusters in the logarithmic region", J. C. del Álamo, J. Jiménez, P. Zandonade & 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. Zandonade & R. D. Moser, *J. Fluid Mech.* 500:135–144 (2004) [230]

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", IPAM Wtk. Turb. Eng. Appl., Los Angeles CA, Nov. 17, 2014.
3. "Model- vs. data-driven turbulence theories", (T) 2014, Bertinoro IT. , Sept. 21, 2014.
4. "Turbulence in shear flows", Int. Symp. Math. Theories of turbulence, Nara 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 Days 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", Penner Lecture, UC San Diego, La Jolla CA, USA, June 4, 2012.
9. "Microscale turbulence and interactions with organisms", Microenvironmem 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", Eccothc DNS & LES 8, Eindhoven NL, July 7, 2010.
12. "Supercomputing requirements for turbulence simulations", Kick-off Swedish e-Science Centre, Stockholm SE, April 22, 2010.
13. "Simulation results in wall-bounded turbulence", Nordite School on Boundary Layers, Stockholm, SE, April 16, 2010.
14. "Inner-outer interactions in wall turbulence", Int. Conf. Turb. Interact, Martinique FR, June 1, 2009.
15. "Direct numerical simulations of turbulent flows", Saffman Symp., Pasadena CA, May 28, 2009.
16. "Numerical simulations of turbulent flows", Int. Symp. Math. Simulation in Sci. and Technology, Sevilla Acad. Sci. ES, Jan. 29, 2009

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[redacted] Part B1 [redacted]

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

Organization of Scientific meetings:

2015 Chair. 2nd. Multiflow Summer School on Turbulence (1 month, expect 50-60 part.) Madrid. Spain
2015 Co-Chair. Euromech Coll. Coherent structures in turbulence (3 days, expect 40-50 part.) Madrid. Spain
2013 Chair. 1st. Multiflow Summer School on Turbulence (1 month, 55 part.) Madrid; Spain
2012 Chair. Int. Workshop on Turbulent/Nonturbulent Interface (2 days, 20 part.) Madrid; Spain

Other awards and activities:

- Elected Fellow: *European Mechanics Society* (Euromech, 2014), *Institute of Physics London* (2004)
- Scientific Comm. ERCOFTAC (2006-). Tech. Advisory Comm. Von Karman Inst., Brussels (2010-).
- Prioritization Committee. PRACE, European Supercomputing Network (2014-).
- ERC CoG panel (2013-2015).

Postdoct 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 Yokohama 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 Multiflow 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 (Holzner, 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 as local PhD students, but one is now pursuing her PhD at Caltech.

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Section B1c Early achivements track-record

- **Personal Statements**

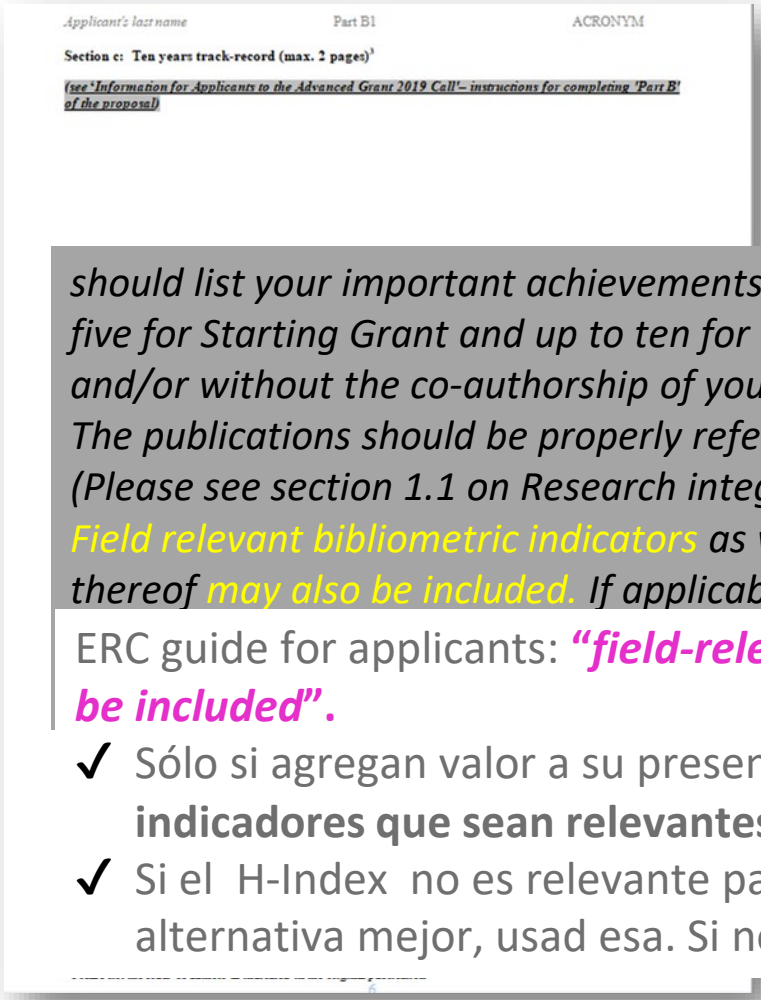
Carling Part B1 *FUMI*

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*).

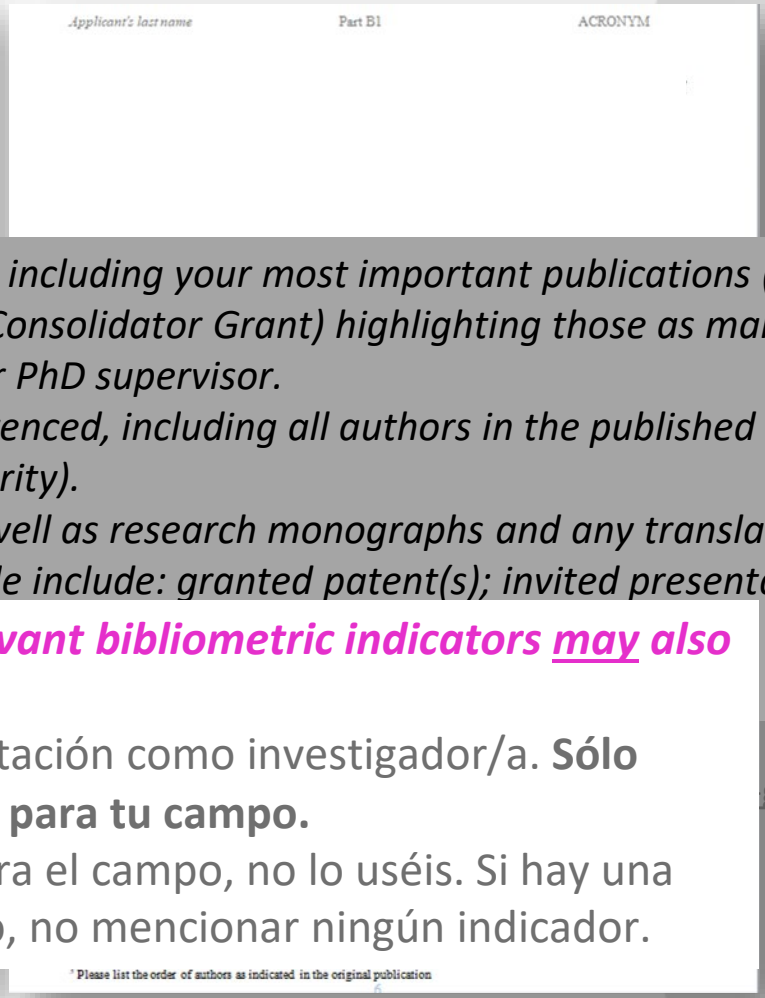
Fuente: Pathways to an ERC Grant: Learning from Success and Failure . Jørgen Carling. Peace Research Institute Oslo (PRIO)
https://jorgencarling.files.wordpress.com/2019/10/carling-erc-cv-and-track-record.pdf

Section B1c Early achivements 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

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

should list your important achievements, including your most important publications (up to five for Starting Grant and up to ten for Consolidator Grant) highlighting those as main author and/or without the co-authorship of your PhD supervisor.
The publications should be properly referenced, including all authors in the published order (Please see section 1.1 on Research integrity).
Field relevant bibliometric indicators as well as research monographs and any translations thereof may also be included. If applicable include: granted patent(s); invited presentations to

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.

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Section B1c Early achivements track-record

- **H-index**

Gaita-Ariño Part B1 DECRESIM

CAREER RECORD

33 scientific publications in high-impact peer-reviewed international journals, including:

Nature Nanotechnology[1]	(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)		

nº of citations = 1265 (25% in 2013) ***h*-index = 17** **citations/article = 38**

Corresponding Author (CA) in 6 publications (**+4** submitted).
2 publications without my 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"

Section c. Early achievements track record
PUBLICATIONS
According to Google Scholar, I have over 165 citations and an h-index of 6. Here is a selection of over 30 academic publications):

Section B1c Early achivements 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 Early achivements track-record

Carling Part B1 FUMI

Section c: Early achievements track-record

Since my first peer-reviewed article in 2002, I have gradually achieved international 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 meaning of 'migrants' (meaningofmigrants.org) and a research-oriented Twitter account with 3400 followers (twitter.com/jorgencarling). I have also contributed to influential blogs, including the *LSE 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 'scripts' as a conceptual tool for making sense of the social dynamics of remittances (2014)

Invitation to serve as expert panellist 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 Aula Mediterrània 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 *Remoteness 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.**' *Journal of Ethnic and Migration Studies*:1-19.
Google Scholar citations: 3

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.**' *International Migration Review*, 48:S218-S262.
Google Scholar citations: 58

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'.

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

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 Pettersen, S.V. (2014) '**Return migration intentions in the integration-transnationalism matrix.**' *International Migration*, 52(6):13-30.
Google Scholar citations: 47

An empirical article on return migration that introduces an innovative framework for studying relations between integration and transnationalism.

Carling, J. and Hernández-Carretero, M. (2011) '**Protecting Europe and protecting migrants?**' *British Journal of Politics and International Relations*, 13(1):42-58.
Google Scholar citations: 84

A theoretical explanation of why extraterritorial 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.**' *Ethnic and Racial Studies*, 31(8):1452–1477.
Google Scholar citations: 205

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 Menjívar, and B Yeoh.

Carling, J. (2008) '**The determinants of migrant remittances.**' *Oxford Review of Economic Policy*, 24(3):582-599.
Google Scholar citations: 210

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-African borders.**' *International Migration Review*, 41(2):316-343.
Google Scholar citations: 238

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.

Haugen, H.Ø. and Carling, J. (2005) '**On the edge of the Chinese diaspora: The surge of baihuo business in an African city.**' *Ethnic and Racial Studies*, 28(4):639-662.
Google Scholar citations: 162

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.**' *Journal of Ethnic and Migration Studies*, 28(1):5-42.
Google Scholar citations: 390

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 Early achivements track-record

- **Selected Achievements**
- **Selected Publications**

SELECTED ACHIEVEMENTS

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Invitation to serve as expert panellist on migrant smuggling, United Nations, Vienna (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**

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**.' *International Migration Review,* 48:S218-S262.

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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'.

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**

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
https://jorgencarling.files.wordpress.com/2019/10/carlin

Section B1c Early achivements track-record

- **Selected Publications**

Selected publications in leading peer-reviewed journals and selected book chapters

Journal rank quartile from ISI Web-of-Science Journal Citation Reports if available; in all other cases, journal category from European Science Foundation ERIH Initial List: Linguistics (2007)

M. **Baroni** and A. Lenci. To appear. Distributional Memory: A general framework for corpus-based semantics. *Computational Linguistics*. Journal ranked in Q1 of *Linguistics* and *Computer Science, Interdisciplinary Applications*. Citations: 1. Here and in the Cognitive Science paper below, I introduce a new corpus-based semantic model of word meaning that adapts flexibly to multiple semantic tasks and shares interesting properties with human semantic cognition. The model and its extensive evaluation work reported in these articles will constitute starting points for COMPOSES model and evaluation.

G. Kremer and M. **Baroni**. To appear. A set of semantic norms for German and Italian. *Behavior Research Methods*. Journal ranked in Q1 of *Psychology, experimental* and *Psychology, mathematical*. Citations: 0.

M. **Baroni**, B. Murphy, E. Barbu and M. Poesio. 2010. Strudel: A corpus-based semantic model based on properties and types. *Cognitive Science* 34 (2): 222-254. Journal ranked in Q1 of *Psychology, experimental*. Citations: 9.

V. Pirrelli, E. Guevara and M. **Baroni**. 2010. Computational issues in compound parsing. In S. Scalise and I. Vogel (eds.), *Cross-disciplinary issues in compounding*, Amsterdam: Benjamins: 271-286. Citations: 0.

M. **Baroni**, S. Bernardini, A. Ferraresi and E. Zanchetta. 2009. The WaCky Wide Web: A collection of very large linguistically processed Web-crawled corpora. *Journal of Language Resources and Evaluation* 43 (3): 209-226. ERIH B category (formerly *Computers and the Humanities*, ERIH A category). Citations: 28. The corpus construction and annotation work described here has recently been extended with a full dependency parse of the English corpus and of the English Wikipedia. The resulting enlarged corpus will constitute the main data source of COMPOSES.

M. **Baroni**, E. Guevara and R. Zamparelli. 2009. The dual nature of deverbal nominal constructions: Evidence from acceptability ratings and corpus analysis. *Corpus Linguistics and Linguistic Theory* 5 (1): 27-60. ERIH C category. Citations: 1. We study a linguistic problem by combining corpus data, Web-collected graded linguistic judgments and advanced statistical analysis (mixed effect linear models). We will apply similar elicitation and analysis techniques in COMPOSES.

http://marcobaroni.org/composes/composes_ERC_2011_StG_PartB1.pdf

ERC StG 2023
Proposal B1a + B2

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 approach ….high 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)

Scientific Approach

- feasible scientific approach ….high 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)

3,5 pages/14

9 pages/14

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 reconstru
neurogénesis"

• La bióloga del Centro de Biología Molec
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?

1. separadamente
2. en combinación con preguntas de investigación
3. 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 T**I a esa Gran Pregunta de Investigación
- Demuestra el conocimiento del PI en los problemas metodológicos, conceptuales, teóricos de campo
- Demuestra el **sentido crítico o la creatividad del PI** con sus aportes previos al SoA

Cada objetivo debería de ser (de producir) una contribución destacada al campo de conocimiento

...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

...ambitious objectives beyond SoA

(B1 & B2)

Objetivos interrelacionados con el SoA

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

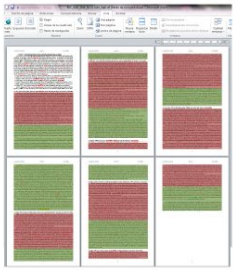
References (no limits)

criterio gráfico

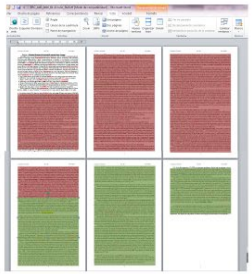
aportaciones al SoA del IP

ROJO = SoA

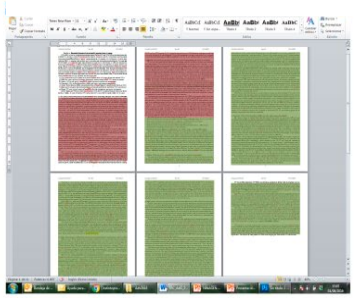
VERDE = proyecto



Agrupando >>



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



Feasibility- Evidencias o datos preliminares

Publicados o no publicados

… pero siempre del Investigador Principal

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

Especial atención a cuestiones que susciten controversia en la comunidad científica

...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

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 approach ….high risk/high gain? (B1) ↔ 3 pages/5
- research methodology and working arrangements? (B2)
- development of novel methodology (B2) ↔ 9 pages/14
- 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)

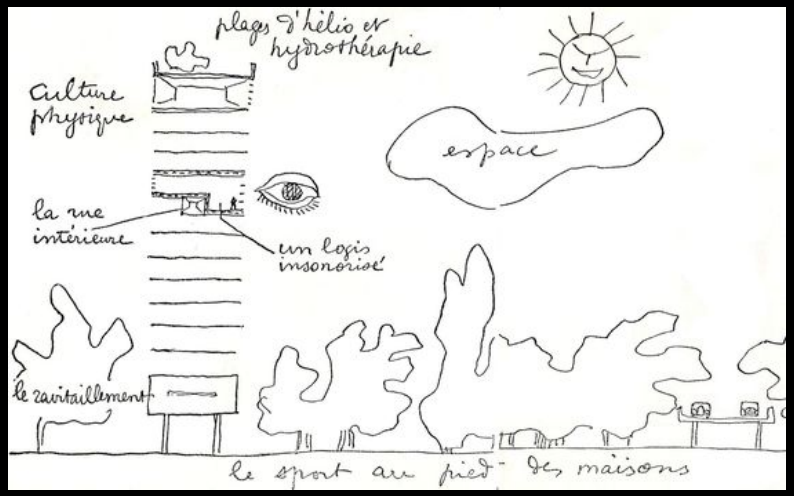
Scientific approach

Feasible scientific approach vs. methodology

El grado de detalle...

B1a: "feasible outlined scientific approach bearing in mind the research is high risk/high gain"

B1a = is about the vision



Idea de concepto:

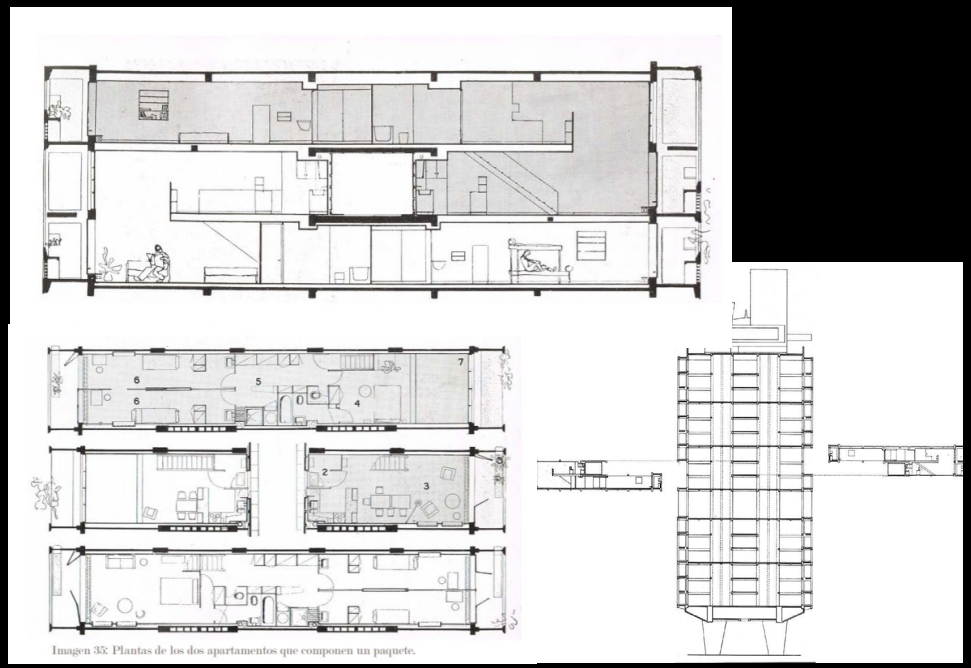
Le Corbusier | Unite d´Habitation | Marsella, Francia | 1945-1952

Scientific approach
Feasible scientific approach vs. methodology

El grado de detalle...

B2: "methodology appropiate to achieve the goals"

B2 = technical manual of execution



Desarrollo de la idea de concepto:
Sección transversal célula y edificio
Plantas de los dos apartamentos que componen un paquete

Scientific approach methodology (B2)

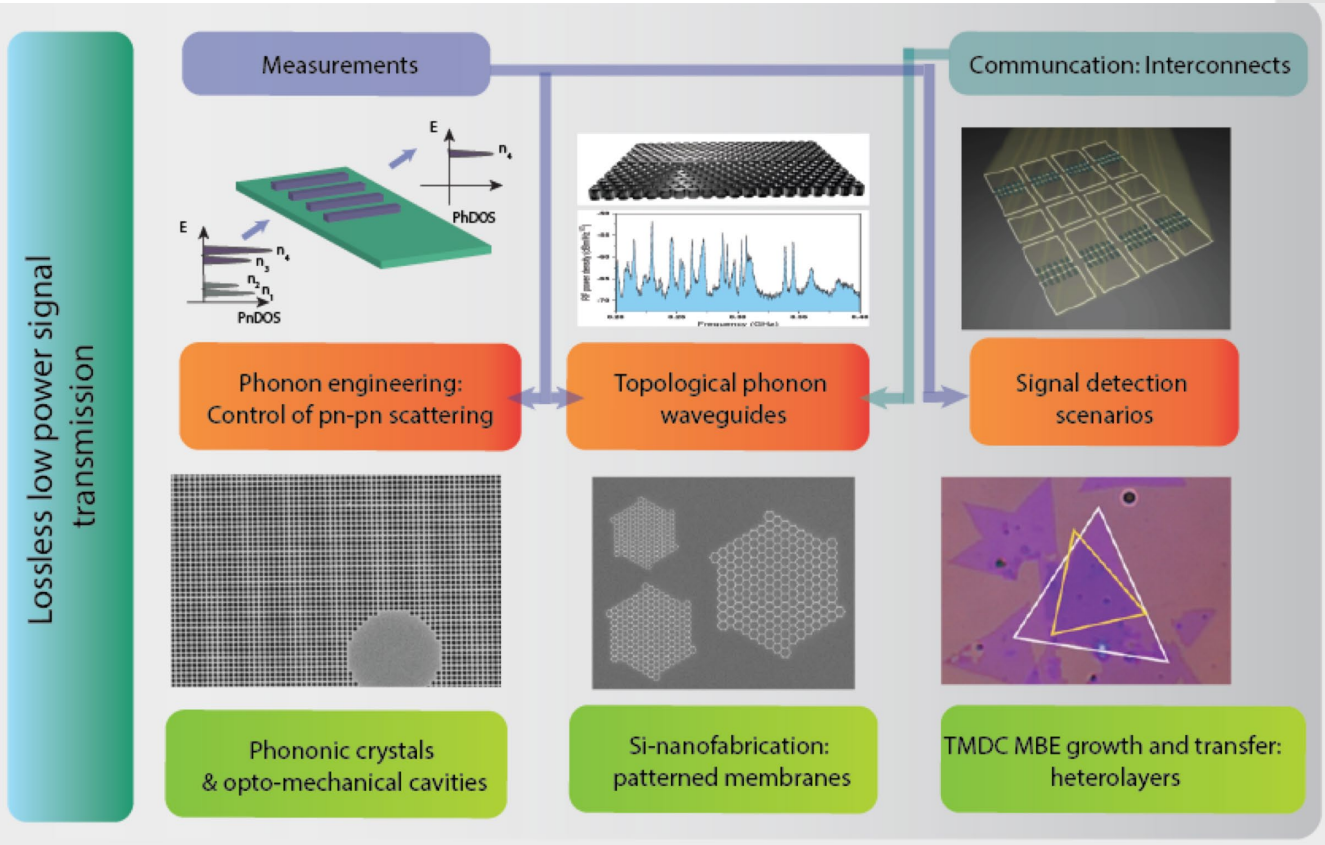
9 pages/14

• research methodology and working arrangements	• Strategy to achieve the workplan**. HOW?** • **WPs/objectives/aims > tasks > outcomes** • Methods, data, tools per WP • NO: one single way/ waterfall design • **Complexity**, loops, iterative design • **Key Intermediate Goals.** Time-based
• development of novel methodology	• **New** methods, techniques, tools, data. • Known methodology used for the first time in another field • No new methodology> no high risk> no high gain
• timescales, resources and PI commitment	• Timeline and human resources per objective and or task • Expertise needed per objective. Team composition during the 5 years. • Your commitment to the project (leader of your research team)

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

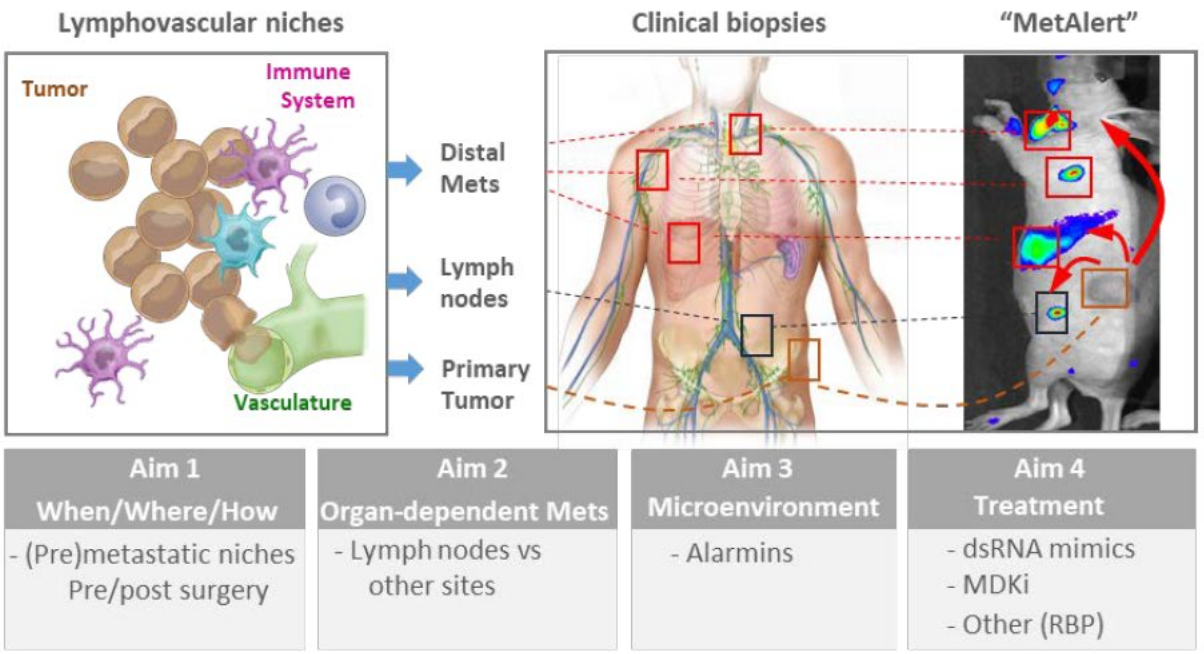
Gráfica/diseño de la metodología investigación

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

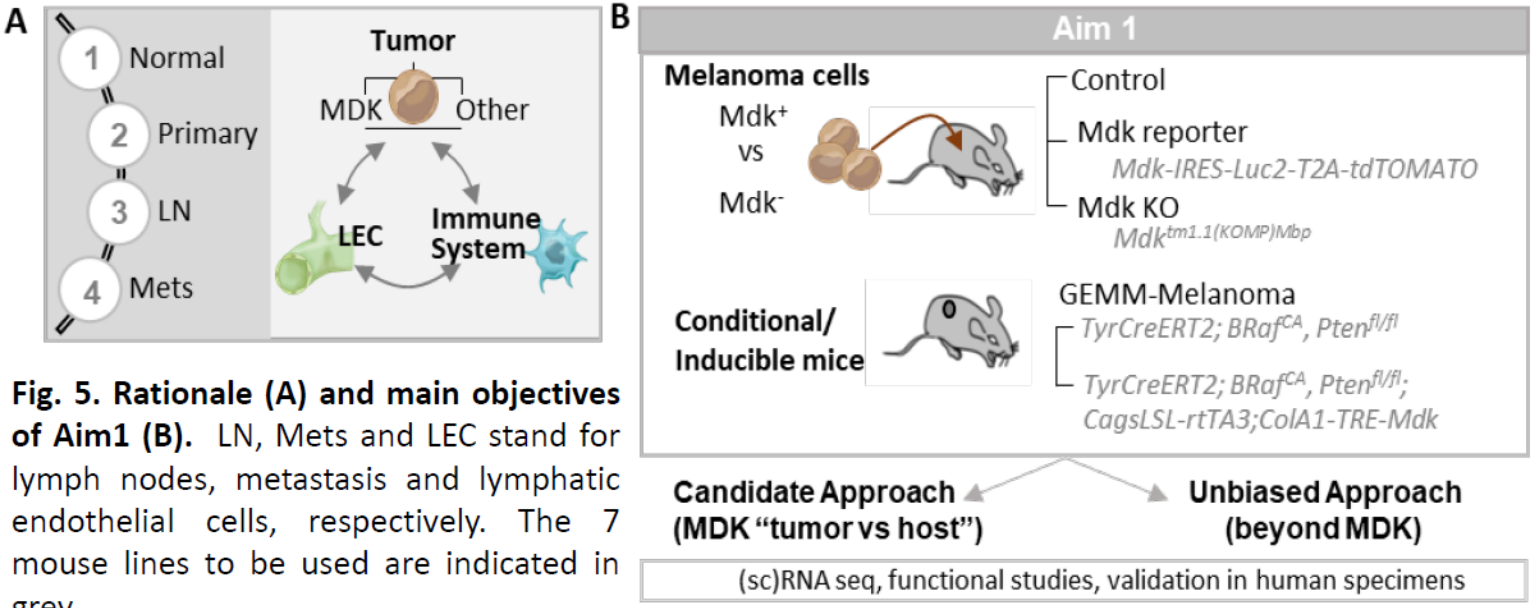


Fig. 5. Rationale (A) and main objectives of Aim1 (B). LN, Mets and LEC stand for lymph nodes, metastasis and lymphatic endothelial cells, respectively. The 7 mouse lines to be used are indicated in grey.

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

...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)*

B1

Risk table *(B2 presents a more detailed risk table)*

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).

B2

b.3 Risk table

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 *why* 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: DEEPMED ERC-2020-COG)***

B1

Challenge	Risk	Counteraction/contingency plan	Gain	Impact/Novelty
Project lacks unity due to ambition	High	PI marks clear agenda, HGIS ensure crosspollination and synthesis. **Contingency**: limit scope to landmarks.	High	First long-term first history of the perceptions and transformations of the deep Med environment.
Does not find the necessary expertise	High	PI mobilizes international networks through an open international call. **Contingency**: adapt focus to expertise.	High	Integrates different disciplinary and geographic perspectives in a non-linear history.
Collaboration with oceanographer	High	PI establishes clear questions and mobilizes local networks to find the right candidates. **Contingency**: outsource collaborations.	High	Overcomes current gap science/ history of deep Med and yields new views on temporality.
Secrecy blocks access to sources	High	Preliminary review of sources is promising and transnational research useful. **Contingency:** Adapt to available sources.	High	Offers full picture of the historical making of the deep Med and its asymmetries.
Digital humanities fails	Med	PI recruits advanced HGIS expert and redefines categories and tools of analysis. **Contingency:** reduce public outreach.	High	Offers environment for deep Med history and promotes new imaginations of this Sea.

DEEPMED Team and deliverables

https://www.academia.edu/49122878/B1_ERC_CoG_DEEPMED_Discovering_the_Deep_Mediterranean_Environment_A_History_of_Science_and_Strategy_1860_2020_

...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 uns

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/

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	Consum-ables 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						0.00	0.00

Host Institution rules apply!

A. Total personnel costs

- PI + Team members >team composition over the years

B. Subcontracting costs (no OH)

C. Total purchase costs

C.1 Travel and subsistence

C.2 Equipment including major equipment > depretiation 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,

** Actualizar cuando se publique la Guía del solicitante StG 2023(*

The PI + Team Members

Principal Investigator

Principal Investigator + Research Team

Principal Investigator + Research Team with Experts / workshops

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)*

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.

Ethics self-assessment

Forms A. Part 4. Ethics issues table + Ethics Self-Assessment

Proposal Submission Forms
European Research Council Executive Agency

Proposal ID **SEP-210640862** *Acronym* **CoG 2020**

4 - Ethics

1. HUMAN EMBRYOS/FOETUSES		Page
Does your research involve Human Embryonic Stem Cells (hESCs)?	○ Yes ◉ No	
Does your research involve the use of human embryos?	○ Yes ◉ No	
Does your research involve the use of human foetal tissues / cells?	○ Yes ◉ No	
2. HUMANS		**Page**
Does your research involve human participants?	○ Yes ◉ No	
Does your research involve physical interventions on the study participants?	○ Yes ◉ No	
3. HUMAN CELLS / TISSUES		**Page**
Does your research involve human cells or tissues (other than from Human Embryos/Foetuses, i.e. section 1)?	○ Yes ◉ No	
4. PERSONAL DATA		**Page**
Does your research involve personal data collection and/or processing?	○ Yes ◉ No	
Does your research involve further processing of previously collected personal data (secondary use)?	○ Yes ◉ No	
5. ANIMALS		**Page**
Does your research involve animals?	○ Yes ◉ No	
6. THIRD COUNTRIES		**Page**
In case non-EU countries are involved, do the research related activities undertaken in these countries raise potential ethics issues?	○ Yes ◉ No	
Do you plan to use local resources (e.g. animal and/or human tissue samples, genetic material, live animals, human remains, materials of historical value, endangered fauna or flora samples, etc.)?	○ Yes ◉ No	
Do you plan to import any material - including personal data - from non-EU countries into the EU?	○ Yes ◉ No	
Do you plan to export any material - including personal data - from the EU to non-EU countries?	○ Yes ◉ No	
In case your research involves low and/or lower middle income countries, are any benefits-sharing actions planned?	○ Yes ◉ No	
Could the situation in the country put the individuals taking part in the research at risk?	○ Yes ◉ No	

RANGO Ó Nº PAG

Proposal Submission Forms
European Research Council Executive Agency

Proposal ID **SEP-210640862** *Acronym* **CoG 2020**

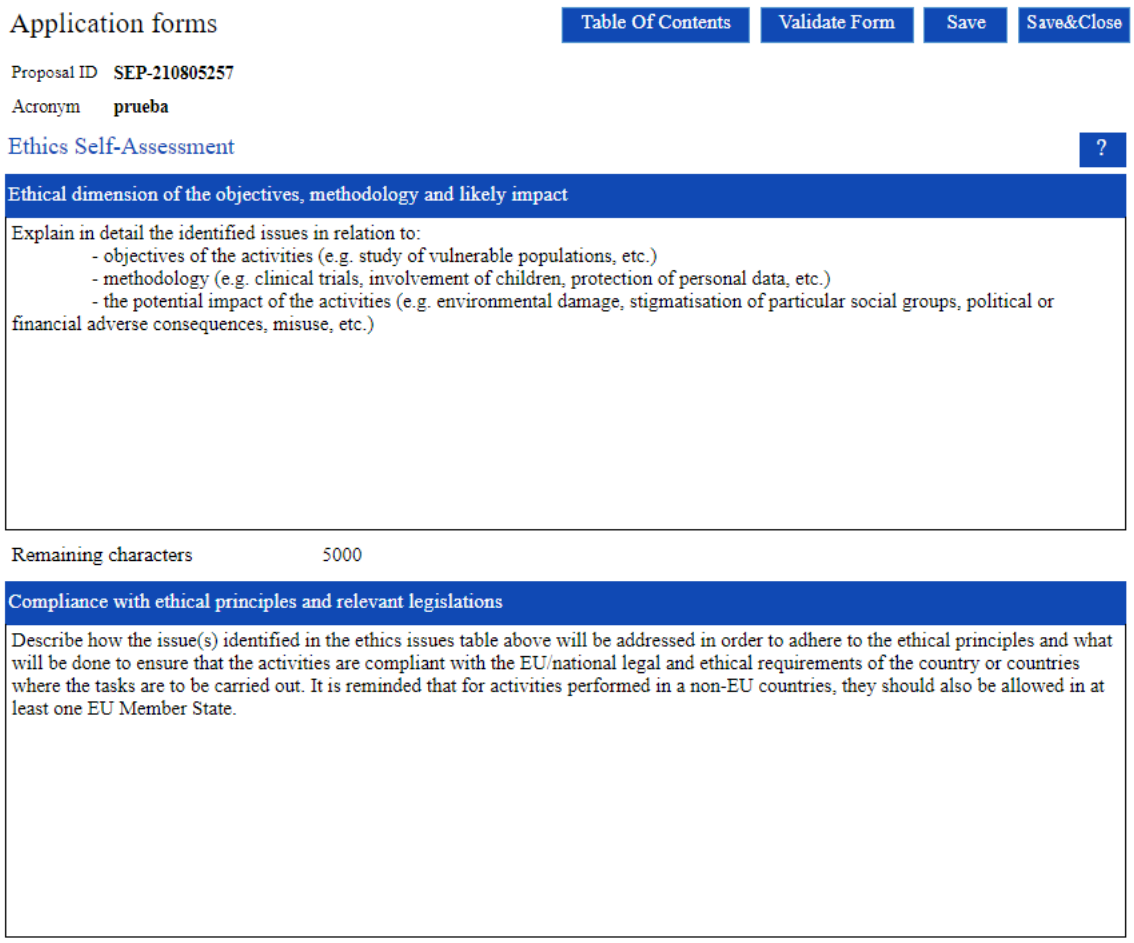
7. ENVIRONMENT & HEALTH and SAFETY		Page
Does your research involve the use of elements that may cause harm to the environment, to animals or plants?	○ Yes ◉ No	
Does your research deal with endangered fauna and/or flora and/or protected areas?	○ Yes ◉ No	
Does your research involve the use of elements that may cause harm to humans, including research staff?	○ Yes ◉ No	
8. DUAL USE		**Page**
Does your research involve dual-use items in the sense of Regulation 428/2009, or other items for which an authorisation is required?	○ Yes ◉ No	
9. EXCLUSIVE FOCUS ON CIVIL APPLICATIONS		**Page**
Could your research raise concerns regarding the exclusive focus on civil applications?	○ Yes ◉ No	
10. MISUSE		**Page**
Does your research have the potential for misuse of research results?	○ Yes ◉ No	
11. OTHER ETHICS ISSUES		**Page**
Are there any other ethics issues that should be taken into consideration? Please specify	○ Yes ◉ No	

I confirm that I have taken into account all ethics issues described above and that, if any ethics issues apply, I will complete the ethics self-assessment and attach the required documents. ☐

How to Complete your Ethics Self-Assessment

Ethics self-assessment

Forms A. Part 4. Ethics issues table + Ethics Self-Assessment

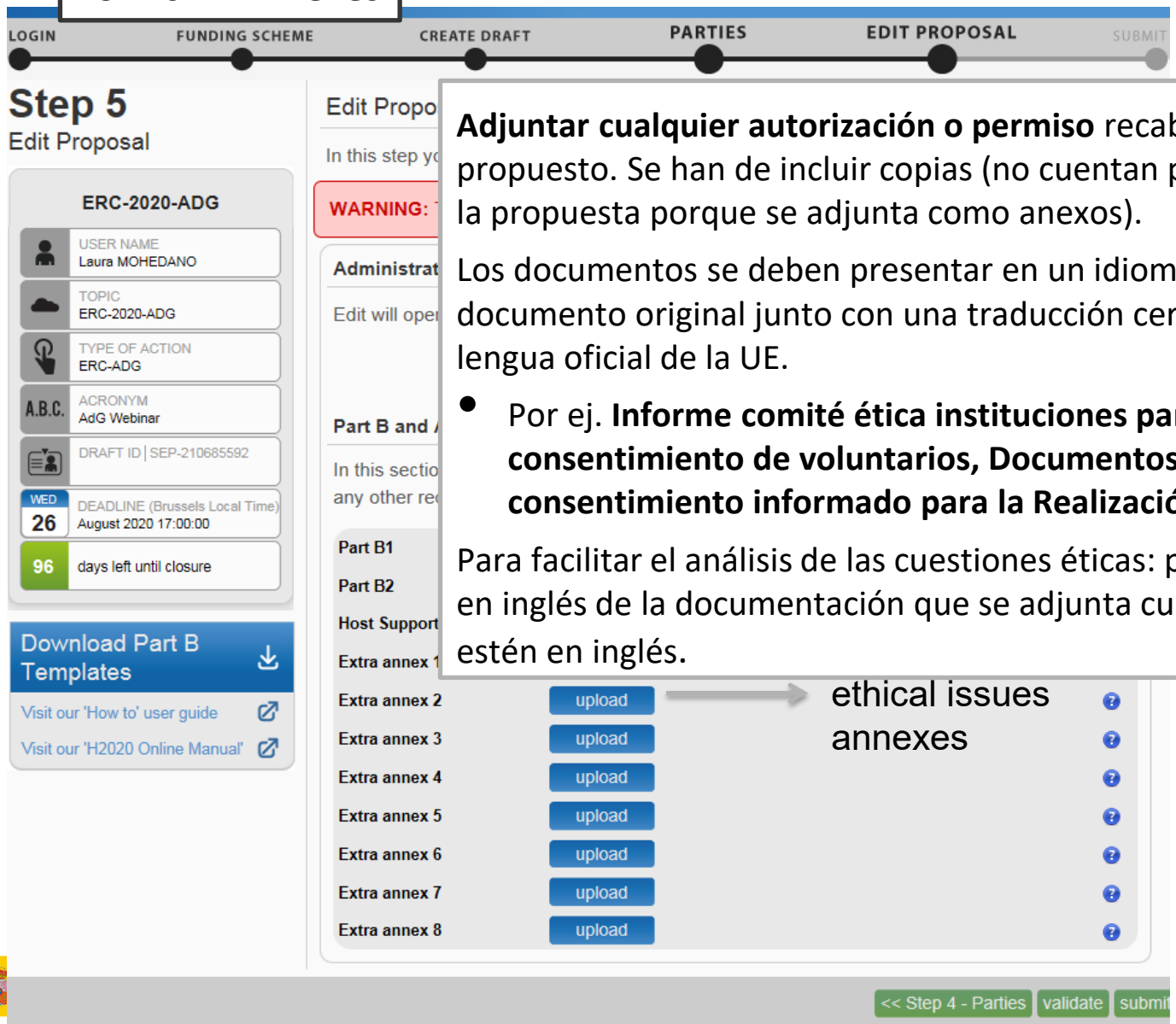


Ethics Self-Assessment

- Ethical dimension of the objectives, methodology and likely impact
- Compliance with ethical principles and relevant legislations

Ethics self-assessment

Forms A. Annexes



Adjuntar cualquier autorización o permiso recabado para el trabajo propuesto. Se han de incluir copias (no cuentan para el límite de páginas de la propuesta porque se adjunta como anexos).

Los documentos se deben presentar en un idioma oficial de la UE o el documento original junto con una traducción certificada en inglés o otra lengua oficial de la UE.

- Por ej. **Informe comité ética instituciones participantes, Formulario de consentimiento de voluntarios, Documentos informativos y de consentimiento informado para la Realización de la prueba,..**

Para facilitar el análisis de las cuestiones éticas: proporcionar un resumen en inglés de la documentación que se adjunta cuando estos documentos no estén en inglés.

Ethics self-assessment

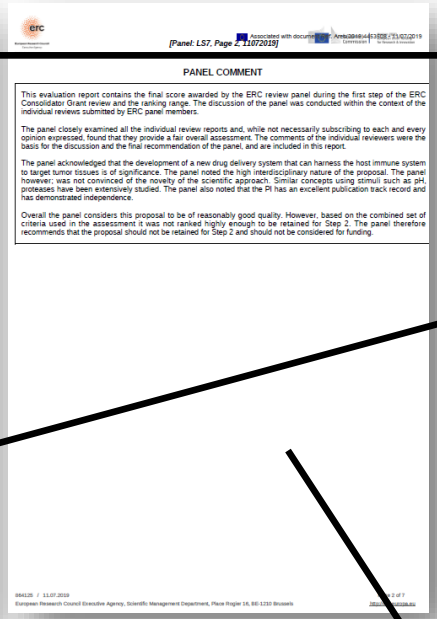
Part B2

Proporcionar una **descripción narrativa** de los **problemas éticos** asociados a la propuesta (en), asegurándose de cubrir todos los temas marcados en la tabla de cuestiones éticas.

- Descripción de los **posibles problemas éticos** de la acción propuesta con respecto a sus objetivos; la **metodología** y las posibles **implicaciones de los resultados**;
- Explicación de cómo se **cumplirán** los **requisitos éticos** establecidos en el **programa de trabajo**;
- Declaración sobre cómo la propuesta cumple con los **requisitos éticos** y **legales nacionales** de la **UE** y / o del **tercer país** donde se llevará a cabo la acción;
- Indicación de qué **autorizaciones** particulares pueden ser **necesarias** durante la **vida del proyecto**.

ERC Evaluation Summary Reports (ESRs)

Estructura del Evaluation Summary Report -ESR



PANEL COMMENT

This evaluation report contains the final score awarded by the ERC review panel during the first step of the ERC Consolidator Grant review and the ranking range. The discussion of the panel was conducted within the context of the individual reviews submitted by ERC panel members.

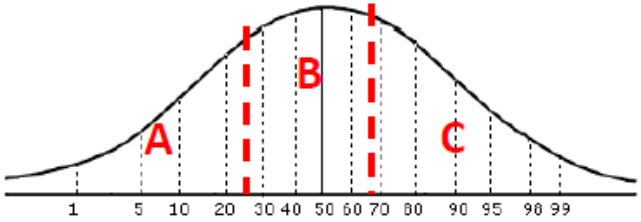
The panel closely examined all the individual review reports and, while not necessarily subscribing to each and every opinion expressed, found that they provide a fair overall assessment. The comments of the individual reviewers were the basis for the discussion and the final recommendation of the panel, and are included in this report.

The panel acknowledged that the development of a new drug delivery system that can harness the host immune system to target tumor tissues is of significance. The panel noted the high interdisciplinary nature of the proposal. The panel however; was not convinced of the novelty of the scientific approach. Similar concepts using stimuli such as pH, proteases have been extensively studied. The panel also noted that the PI has an excellent publication track record and has demonstrated independence.

Overall the panel considers this proposal to be of reasonably good quality. However, based on the combined set of criteria used in the assessment it was not ranked highly enough to be retained for Step 2. The panel therefore recommends that the proposal should not be retained for Step 2 and should not be considered for funding.

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

Final score + ranking range



Panel Comment

REVIEWER COMMENTS

Individual reviews: different roles

- conduct ground-breaking research
- evidence of creative independent thinking
- scientific expertise and capacity to successfully execute the project

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

Why an ERC proposal can fail at 1 step?

Starting Grant 2020

*- The nature of the proposal is **incremental** and unlikely will achieve a ground-breaking contribution to the field.* *-The **track record** of the **PI** is also **below ERC standards**, both regarding publications and visibility..”*
*- The track record of the PI of achieving relevant result is strong, but the PI has not yet reached a high degree of **visibility**.* *-The content of the research work programme is interesting and substantial, but there is **not** sufficient **evidence** for the **novelty** of the approach. The proposal is rather incremental nature, **not** convincing it would lead to a **major breakthrough**.”*
*-The proposal is of good quality and relevance. However, the **proposal** is **not sufficiently ground-breaking** and **too narrowly** focused on X.* *-Acknowledgment of the applicant’s scientific achievements in the field. However, the publication record is limited and he has **not** demonstrated yet **sufficient independent creativity**”*

Why an ERC proposal can fail at 2 step?

Starting Grant 2020

"The idea of the proposal is ambitious and beyond the state of the art, but the ***proposal*** *itself is* ***not*** *well defined enough to be* ***credible****.*
I would consider this high gain and high risk. However, the ***risk is so high*** *that I don't think the PI realizes it nor addresses it. Applying X* ***method to these research*** *field is a hot* ***area*** *at the moment, making it a somewhat* ***saturated***
space at the moment since there are so many big advances happening. ....It's the ***extreme riskiness*** *of this research direction that makes the proposal* ***less credible****.*
The direction of the research is good, but the approach ***lacks sufficient detail to assess its feasibility****. ... I would have preferred* ***more scientific detail*** *on the approaches and discussion of* ***feasibility****."*

The PI is excellent and has ***considerable experience in X research****, directly relevant to the project, and a strong publication record in the field.*
This proposal ***addresses*** *an* ***important area in the X energy****. The approach is to develop X. The panel appreciated the potential of* this *novel approach.*
However, there was disappointment that the ***methodology*** *had* ***not*** *been* ***developed*** *in more detail in Part B2 of the proposal. There was also concern about the lack of detail on the resource allocation and risk analysis.*

Why an ERC proposal can fail? *Advanced Grant 2019 - PE*

Ground-breaking nature and potential impact of the research project

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

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

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

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

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

I would have expected a more ambitious perspective for this.

The project is incremental when compared with the existing methodology.

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

Why an ERC proposal can fail?

Advanced Grant 2019 - PE

Scientific Approach

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

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

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

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

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

Why an ERC proposal can fail? *Advanced Grant 2019 - SH*

Ground-breaking nature and potential impact of the research project
The main research question underlying the project is interesting and the gaps identified in the literature seem to be generally accurate…

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

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

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

MUCHAS GRACIAS