ERC Grants for experienced researchers – Advanced Grants

Simona Romagnoli
Advanced Grant Call Coordination
Scientific Department
ERCEA

Aarhus, 25 February 2020
What is ERC?

The ERC supports excellence in frontier research through a bottom-up, individual-based, pan-European competition

**Budget:** € 13 billion (2014-2020) - 1.9 billion €/year
€ 7.5 billion (2007-2013) - 1.1 billion €/year

**Legislation**
- Scientific governance: independent Scientific Council with 22 members including the ERC President; full authority over funding strategy
- Support by the ERC Executive Agency (autonomous)
- Excellence as the only criterion

**Strategy**
- Support for the individual scientist – no networks!
- Global peer-review
- No predetermined subjects (bottom-up)
- Support of frontier research in all fields of science and humanities
Scientific Governance by the Scientific Council
ERC Scientific Council
Standing Committees & Working groups

CoIME
(Conflict of Interest & Research integrity)

CoP
(Committee on Panels)

Gender balance

Open Access

Strengthening internationalisation

Widening participation

Innovation and relations with industry

Key performance indicators
Scientific Governance by the ERC Scientific Council

Scientists at the Driver's Seat
- 22 prominent researchers appointed by the Commission
- Establishes overall scientific strategy
- Controls quality of operations & management
- Ensures communication with the scientific community

Panel Members
- Appointed by the Scientific Council
- Full independence in the evaluation and ranking of the proposals
- Appoint remote referees
ERC Scientific Council on Horizon Europe

- **Continuity:**
  - Of structure from the current legal framework
  - Of governance arrangements: independence of Scientific Council and operational autonomy

- **Agility:**
  - To innovate and adapt its scientific strategy
  - To manage its resources flexibly
  - To use tailor made tools and procedures when necessary

- **Scale-up:**
  - To turn ERC into one of Europe's main funders
  - To ensure appropriate success rates
  - To support more Europe's top-performing researchers
Tentative planning for 2021-2022

- StG, CoG, AdG and PoC continue as usual in 2021 and 2022, but with a delayed time schedule (first calls launched only in January 2021).
  - Eligibility windows continue in line with earlier calls
- Normal schedule expected by mid-2022.
- No SyG in 2021, expected to be back in 2022.
- Panel structure:
  - NEW: SH7 Human Mobility, Environment and Space
  - NEW: PE11 Materials Engineering
  - Smaller redefinitions of LS panels
- Interviews for AdG panels
The ERC is also the ERC Executive Agency (ERCEA)

- Implements calls for proposals
- Organises peer review evaluation
- Establishes and manages grant agreements
- Administers scientific and financial aspects
- Carries out communications activities

**ERC Scientific Department**

- Manage all practical aspects of the evaluations working closely with the Panel Members
- Carry out scientific follow-up
After 11 Years...

- Over 9,000 top researchers funded since the ERC's creation in 2007
- Over 60,000 researchers and other professionals employed in ERC research teams
- €13 billion ERC budget for 2014-2020 under Horizon 2020
- Over 110,000 articles from ERC projects published in prestigious scientific journals
- 800 research institutions hosting ERC grantees – universities, public or private research centres in the EU or associated countries
- 82 nationalities of grant holders
A Success Story

- Highly recognised by the research community
- Over 9,500 top researchers funded during 2007-2019
- 67% are at an early-career stage
- 82 nationalities represented
- Highly competitive (overall success rate tending to 12%)
- Working in over 800 different institutions in 33 countries
- 50% of grantees in 50 institutions: “Excellence attracts excellence”
- Benchmarking effect: impact on national programmes and agencies; national funding for best "runners-up"
- Efficient and fast grant management
Priority to Young Scientists

Two-thirds of ERC grants to early-stage Principal Investigators

+ 35 000 PhD and post-doc researchers working in ERC teams
Attracting Researchers to Europe

Nationality of ERC project teams (PIs not included)
Analysis of 1,901 Starting and Advanced Grants

EU: 71%
Assoc. Countries: 10%
non-EU/AC: 17%
unknown: 2%

In all ERC grants
+ 10,000 non-ERA team members
most from
China, US, India, and Russia
>20% of the ERC-funded Projects Deliver Scientific Breakthroughs
ERC and Denmark
Averaged over 2007-2017, 29% of the ERC panel members were women.
Success Rate by Country of HI

Success rate (2007-2018)

- EU15:
  - NL: 15
  - FR: 15
  - DE: 14
  - AT: 14
  - UK: 14
  - LU: 13
  - BE: 13
  - DK: 11
  - SE: 10
  - IE: 8
  - ES: 8
  - PT: 7
  - FI: 7
  - IT: 5
  - EL: 5
  - HU: 6
  - CZ: 6
  - EE: 5
  - CY: 5
  - MT: 4
  - PL: 2
  - SI: 2
  - LV: 2
  - HR: 2
  - BG: 2
  - LT: 1
  - RO: 1
  - SK: 1

- EU13:
  - CH: 22
  - IL: 19

- A.C.:
  - NO: 8
  - IS: 5
  - TR: 3
  - RS: 2
ERC Funded Projects by Country of HI
Grantees at Home and Abroad

75 foreign grantees in Denmark
131 national grantees in Denmark
42 Danish PIs abroad
ERC Calls 2012-2019 Submissions from Denmark

The diagram shows the number of submissions from Denmark to ERC Calls from 2012 to 2019, categorized by call type: StG, CoG, ADG, and PoC. The submissions are represented by bars stacked by call type for each year.
ERC calls 2012-2019 submissions from Denmark
ERC 2007-2019* Grants by call and domain
2019 data is provisional
SYG data is corresponding HI PIs

ERC funded projects in Denmark

# funded projects

<table>
<thead>
<tr>
<th>Year</th>
<th>STG</th>
<th>COG</th>
<th>ADG</th>
<th>SYG</th>
<th>POC</th>
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<td>2007</td>
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<tr>
<td>2019</td>
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</tbody>
</table>

Legend:
- SH
- LS
- PE
- POC
- SYG
Grants by institutions in Denmark
(2019 provisional data)

ERC grants in Denmark

Kobenhavns Universitet
Aarhus Universitet
Danmarks Tekniske Universitet
Syddansk Universitet
Copenhagen Business School
Aalborg Universitet
Region Hovedstaden
Kraeftens Bekaempelse
IT University of Copenhagen
Statens Serum Institut
Geological Survey of Denmark and...
Dansk Institut for Internationale Studier

Legend:
- STG
- COG
- ADG
- SYG
- POC
# ERC grants/population

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Netherlands</td>
<td>43.5%</td>
</tr>
<tr>
<td>Denmark</td>
<td>32%</td>
</tr>
<tr>
<td>Sweden</td>
<td>30.8%</td>
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<tr>
<td>UK</td>
<td>27.7%</td>
</tr>
<tr>
<td>Finland</td>
<td>27.4%</td>
</tr>
<tr>
<td>Austria</td>
<td>27.2%</td>
</tr>
<tr>
<td>Belgium</td>
<td>26.5%</td>
</tr>
<tr>
<td>Ireland</td>
<td>18.6%</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>17.8%</td>
</tr>
<tr>
<td>Germany</td>
<td>16.2%</td>
</tr>
<tr>
<td>France</td>
<td>16.2%</td>
</tr>
<tr>
<td>Cyprus</td>
<td>11.8%</td>
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<tr>
<td>Spain</td>
<td>9.9%</td>
</tr>
<tr>
<td>Portugal</td>
<td>8.4%</td>
</tr>
<tr>
<td>Italy</td>
<td>7.6%</td>
</tr>
<tr>
<td>Hungary</td>
<td>6.5%</td>
</tr>
<tr>
<td>Estonia</td>
<td>5.3%</td>
</tr>
<tr>
<td>Greece</td>
<td>4.5%</td>
</tr>
<tr>
<td>Slovenia</td>
<td>3.4%</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>3.1%</td>
</tr>
<tr>
<td>Malta</td>
<td>2.3%</td>
</tr>
<tr>
<td>Poland</td>
<td>0.8%</td>
</tr>
<tr>
<td>Croatia</td>
<td>0.7%</td>
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<tr>
<td>Latvia</td>
<td>0.5%</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>0.4%</td>
</tr>
<tr>
<td>Lithuania</td>
<td>0.3%</td>
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<tr>
<td>Romania</td>
<td>0.3%</td>
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<tr>
<td>Slovakia</td>
<td>0.2%</td>
</tr>
<tr>
<td>Switzerland</td>
<td>70.3%</td>
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<tr>
<td>Israel</td>
<td>60.3%</td>
</tr>
<tr>
<td>Norway</td>
<td>18%</td>
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<tr>
<td>Iceland</td>
<td>12.2%</td>
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<tr>
<td>Serbia</td>
<td>0.3%</td>
</tr>
<tr>
<td>Turkey</td>
<td>0.2%</td>
</tr>
</tbody>
</table>

Source: ERC as of July 2018
Eurostat as of 2015
ERC basics:
1 researcher, 1 Host Institution, 1 project, 1 selection criterion
## 2020 Call Calendar

<table>
<thead>
<tr>
<th>ERC calls</th>
<th>Budget</th>
<th>Call Opening</th>
<th>Submission Deadline(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Starting Grants</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ERC-2020-StG</td>
<td>580 M€</td>
<td>17 July 2019</td>
<td>16 October 2019</td>
</tr>
<tr>
<td></td>
<td>(390 grants)</td>
<td></td>
<td></td>
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<tr>
<td><strong>Synergy Grants</strong></td>
<td></td>
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</tr>
<tr>
<td>ERC-2020-SyG</td>
<td>400 M€</td>
<td>18 July 2019</td>
<td>5 November 2019</td>
</tr>
<tr>
<td></td>
<td>(48 grants)</td>
<td></td>
<td></td>
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<tr>
<td><strong>Consolidator Grants</strong></td>
<td></td>
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</tr>
<tr>
<td>ERC-2020-CoG</td>
<td>602 M€</td>
<td>24 October 2019</td>
<td>4 February 2020</td>
</tr>
<tr>
<td></td>
<td>(314 grants)</td>
<td></td>
<td></td>
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<tr>
<td><strong>Advanced Grants</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>ERC-2020-AdG</td>
<td>492 M€</td>
<td>14 May 2020</td>
<td>26 August 2020</td>
</tr>
<tr>
<td></td>
<td>(209 grants)</td>
<td></td>
<td></td>
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<tr>
<td><strong>Proof of Concept</strong></td>
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<tr>
<td>ERC-2020-PoC</td>
<td>25 M€</td>
<td>15 October 2019</td>
<td>21 January 2020</td>
</tr>
<tr>
<td></td>
<td>(167 grants)</td>
<td></td>
<td>23 April 2020</td>
</tr>
<tr>
<td></td>
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<td>17 September 2020</td>
</tr>
</tbody>
</table>
 Calls to come: what’s new

Since AdG2019:

- Budget table in the submission form (AdG, StG, CoG);
- Written consent: must be obtained by the submission deadline and the agency may request the applicants to provide it at any time during the evaluation

2020 Calls:

- revised Host Institution support letter
- new category for requesting additional funding

Horizon Europe:

- Interviews at step 2 for AdG applicants
New budget table since AdG2019

Technical change for the proposal submission:

- The budget table and the justification of costs are now part of the submission form (Section C. Resources Part A)
- However: The budget narrative counts towards the page limit for the scientific proposal: B2 + Resources = max 15 pages
  - For estimation: 4000 characters correspond approximately to one text page
- The budget table is not taken into account for the page limit.
- Both the budget table and the narrative are provided for the evaluators for step 2.
Reasons for Additional budget not subject to *pro rata* reduction

WP2020 (p. 22): „Additional funding up to the amounts set out in the table below can be requested in the proposal to cover the following eligible costs when these are necessary to carry out the proposed work:

(a) "start-up" costs for Principal Investigators moving to the EU or an Associated Country from elsewhere as a consequence of receiving the ERC grant and/or

(b) the purchase of major equipment and/or

(c) access to large facilities and/or

(d) other *major experimental and field work costs*, excluding personnel costs. “
Open Access to publications

Always upload peer-reviewed publications also to a public repository
(publisher website is not enough!)

→ Either the published version OR the final accepted manuscript

- Principal Investigators may choose green or gold open access
- With green open access, upload the manuscript within 6 months
- Open access fees are eligible costs that can be charged to the ERC grant, if incurred within the duration of the project
- Public repositories include: arXiv, PubMed, discipline-based repositories, host-institution public repositories etc.
- Not accepted: group/personal websites, any service that requires a login (such as ResearchGate)
Established by the European Commission

**Funding Structure**

**ERC Grant schemes**

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Duration</th>
<th>Funding</th>
<th>Duration</th>
<th>Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Starting (StG)</strong></td>
<td>2-7 years after PhD</td>
<td><strong>up to € 1.5m (+1m)</strong> for up to 5 years</td>
<td><strong>2-7 years after PhD</strong></td>
<td><strong>up to € 2m (+1m)</strong> for up to 5 years</td>
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<tr>
<td><strong>Consolidator (CoG)</strong></td>
<td>7-12 years after PhD</td>
<td><strong>up to € 2m (+1m)</strong> for up to 5 years</td>
<td><strong>7-12 years after PhD</strong></td>
<td><strong>up to € 2.5m (+1m)</strong> for up to 5 years</td>
</tr>
<tr>
<td><strong>Advanced (AdG)</strong></td>
<td><strong>significant research achievements (last 10y)</strong></td>
<td><strong>up to € 2.5m (+1m)</strong> for up to 5 years</td>
<td><strong>7-12 years after PhD</strong></td>
<td><strong>up to € 2.5m (+1m)</strong> for up to 5 years</td>
</tr>
</tbody>
</table>

**Proof-of-Concept**

to bridge the gap between research & the earliest stage of marketable innovation

Lump sum €150,000 for ERC grant holders

**Synergy**

to address ambitious research problems jointly, enabling transformative research

2 – 4 Principal Investigators

up to € 10m (+4m) for up to 6 years

NEW from 2019 – 1 PI can be based outside EU/AC
Who can apply?

All excellent researchers of any:
Age, nationality, current place of work

Host Institution in the European Union or in one of the associated countries
What is the ERC looking for?

Frontier research in LS, SH and PE

✓ Pioneering proposals addressing new and emerging fields of research,

or

✓ Proposals introducing unconventional, innovative approaches and scientific inventions

or

✓ Multi- or interdisciplinary proposals which cross boundaries between different fields of research,
Evaluation of proposals

*Excellence* is the sole evaluation criterion

- **Excellence of the Research Proposal**
  - ✓ Ground breaking nature
  - ✓ Potential scientific impact
  - ✓ Scientific Approach

- **Excellence of the Principal Investigator**
  - ✓ Intellectual capacity
  - ✓ Creativity
  - ✓ Leadership
Choosing your panel

✓ Descriptors are **not exhaustive** (not a classification)
✓ **Any topic/field is equally welcome**, whether mentioned in panel structure or not
✓ Descriptors and free keywords used by panel chair to assign reviewers → **choose carefully**!
✓ If proposal is across panels: reviewers from both panels used. **Explain why proposal is “cross-panel” in Part B1!**
Submission to Panels

Proposals are submitted to a Panel of PI's choice:

- Choose a panel that can appreciate the potential breakthrough of the project.
- PI can indicate a “Secondary Panel” (for methodology/applications/interdisciplinary etc.)
- Explain the choice of the secondary panel.
- Panel chair can request cross-panel review(s) if the main panel does not have all necessary expertise.
- Panel chair can also request reviews from other active panel members across all calls.

Transfer of proposals between panels may occur if:

- clear mistake on part of the applicant.
- necessary expertise is only available in a different panel.
- both panel chairs agree on the transfer.
What panel members look for in your proposal

Fund frontier research projects:
- Does the project go substantially **beyond the state of the art**?
- **Why** is the proposed project important?
- Is it **timely**?
- What are the **risks**? Are they justified by a substantial potential **gain**? Is there a **plan** for managing the risks?

Fund the future leaders in the field:
- **Why** is the PI the best person to carry it out?
- Is the PI **internationally competitive** as a researcher at his/her career stage and in his/her discipline?
- Is there **evidence** that the PI is able to work independently, and to manage a 5-year project with a substantial budget?
Structure of the application

✔ Part A (submission form)
  ➢ General information, budget (break-down of costs and description of resources, team composition, open access costs), ethics pre-assessment

✔ Part B1
  ➢ 5 pages of project synopsis
  ➢ Include brief methodology and feasibility
  ➢ CV and track record

✔ Part B2
  ➢ Scientific proposal (part B2 + Resources section=15 pages)
  ➢ Include state-of-the-art, extensive methodology and work plan and risks mitigation strategy

✔ Host institution letter
Preparing your proposal:
Part B1

- Project: innovative? new aspects/solutions/theories?
- Current state of play? Know your competitors.
- Beyond the state of the art VS incremental?
- Highlight the high-risk & high-gain character!
- Goals realistic? Risk mitigation?
- Concise and clear: also for generalists!
- Coherence of proposed project?
- Feasibility (scientific approach)
Preparing your proposal:
Part B2:

a) State-of-the-art and objectives
b) Methodology

The Resources section and the detailed budget table are now part of the online submission form (Part A, Section 3 - Budget).

- Do not repeat the synopsis
- Extensive methodology and work plan
- Go into more detail with the state of the art
- Provide strategies to mitigate risks
- Explain involvement of team members
- Justify requested resources – Part A
- Ask funding for Open Access (mandatory) – Part A
Key points:

- ERC funds "frontier research", including applied research.
- **ALL scientific fields** are eligible for ERC funding; no predetermined priorities!
- The panel descriptors do not represent ERC scientific priorities.
- The budget is distributed among the 25 panels as a function of demand, **success rate flat** across different panels.
- **All researchers** are welcome to apply; applicant’s career stage and the submitted evidence of the capacity to conduct the proposed research matter.
Key points:

- The Host Institution is not an evaluation criterion, only the **excellence** of the proposal and the applicant.
- Proposals **shorter than five years** are welcome. The content of the proposed research determines its budget.
- Already having an ERC grant does not guarantee obtaining another one; each proposal is evaluated on its own merit.
- **Publication record is not decisive** in funding decisions.
Key points:

- Be ambitious and "daring", think big; panels are instructed to seek out high-risk research
- Grab interest and attention of reviewers
- Remember that Part B1 will be seen by "generalists" (panel members)
- If you make it to Step 2, reviewers (including specialists – external reviewers) see both B1 and B2, so do not repeat/duplicate part B1 in part B2.
- Do not include unnecessary partners and collaborators; it is not a "consortium"
Submission of Proposals
Differences in Part B1 and Part B2

Step 1: Panel members and cross-panel reviewers (if needed)
- Only Part B1 is evaluated!

Principal investigator
- Are you internationally competitive?
- Why are you the right person to carry out the project?
- Show your scientific leadership in your CV.
- Give a realistic picture of your collaborations – show that you can drive the collaborations.

- **Track record for AdG: Only the last 10 years are taken into account!**
  
  **Extensions in case of career breaks are possible.**
Submission of Proposals
Differences in Part B1 and Part B2

Step 2: Panel members + external remote reviewers

- Both Parts B1 and B2 plus Budget section are assessed.
- Do not just repeat the synopsis, go in more depth especially on methodology.
- Provide details on methodology, work plan, selection of case studies etc. Show that you know the alternative methodologies and argue why your choice is the best.
- Make sure that the quantitative and qualitative differences to the state of the art are clear and referenced.
- Check coherence of budget figures, justify requested resources.
- Explain involvement / profiles of team members.
- Show that you understand the risks and provide alternative strategies to mitigate them.
Evaluation process
(StG, CoG, AdG)

STEP 1
Remote assessment by Panel members and Cross Panel Reviewers of ONLY section 1 – Synopsis and CV (Part B1)

Panel meeting

Proposals retained for step 2

STEP 2
Remote assessment by Panel members and Remote Reviewers (specialists) of full proposals (Part B1+B2+Budget)

Panel meeting (with interview for StG, CoG ... and also for AdG - WP 2021)

Ranked list of proposals

Feedback to applicants
Typical reasons for rejection

Research Project
- Scope: too narrow ↔ too broad/unfocussed
- Incremental research
- Work plan not detailed enough / unclear
- Insufficient risk management

Principal Investigator
- Insufficient track-record
- Insufficient (potential for) leadership
- Insufficient experience in leading projects (AdG)
Contrary to what you may think:

- ERC funds "frontier research", including applied research.
- The budget is distributed among the scientific panels as a function of demand.
- The panel descriptors do not represent ERC scientific priorities.
- Publication record is not decisive in selection decisions.
Proposals shorter than five years/below maximum budget are equally welcome. The project needs determine the budget.

Quality/potential of applicant is evaluated in view of concrete career stage and local conditions (access to facilities etc.).

Already having an ERC grant does not guarantee obtaining another one; each proposal is evaluated on its own merit.

Resubmissions have a significantly higher success rate. Feedback from panels is valuable to advance own research.
Be ready! Be informed!

✓ Consult the ERC Work Programme, the Information for Applicants and the Guide for Peer Reviewers
✓ Look at funded projects in your field (search tool on ERC website), testimonials, tutorials
Contact the Call Coordination teams!

ERCEA 2020 ADG APPLICANTS ERC-2020-ADG-APPLICANTS@ec.europa.eu;

ERCEA 2020 STG APPLICANTS ERC-2020-STG-APPLICANTS@ec.europa.eu;

ERCEA 2020 COG APPLICANTS ERC-2020-COG-APPLICANTS@ec.europa.eu;

ERCEA POC APPLICANTS erc-poc-applicants@ec.europa.eu;

ERCEA SyG APPLICANTS erc-syg-applicants@ec.europa.eu
ERC grantees 2007-2017
Applications before and after funding
7514 grantees

- Unsuccessful application
- Successful application
The European Research Council

- More information: erc.europa.eu
- National Contact Point: erc.europa.eu/national-contact-points
- Sign up for news alerts: erc.europa.eu/keep-updated-erc
- Follow us on
  - www.facebook.com/EuropeanResearchCouncil
  - twitter.com/ERC_Research
  - www.linkedin.com/company/european-research-council
THANK YOU!

Simona.ROMAGNOLI@ec.europa.eu