ERC SYG 2018: Results
Belgian perspective

2018 - proposals with a Belgian Host Institution: 10

2018 - Successful Belgian proposals: 1

2018 - BE Success rate: 5.2% (Call SR: 9.6%)

SyG2018: 27 proposals were selected for funding
ERC SYG 2018: Results
Belgian perspective

2018 - proposals with a Belgian Host Institution: 10
2018 - Successful Belgian proposals: 1
2018 - BE Success rate: 5.2% (Call SR: 9.6%)

2019 - proposals with a Belgian Host Institution: 18
2019 – Expected call success rate: ~15%
Overview

• SyG 2018: Belgian funded project
• Features of a Synergy grant
• Preparing an application
• Evaluation process and timeline
• Evaluation principles and criteria
• Hints and tips
• SyG 2018- SyG 2019 proposals overview
**Aim:**
Change the way to provide energy for chemical transformations → electrified chemical processes

Approach using renewable energy, with a drastically lower carbon footprint in three major industrial reactions: 1) N2 fixation, 2) CH4 valorization and 3) CO2 conversion to liquid solar fuels.

**Scope** – "Surface-COnfined fast-modulated Plasma for process and Energy intensification in small molecules conversion"

| Gabriele CENTI (IT) | University of Messina | IT |
| Annemie BOGAERTS (BE) | University of Antwerp | BE |
| Volker HESSEL (DE) | Technische Universiteit Eindhoven | DE |
| Evgeny REBROV (RU) | The University of Warwick | UK |

**Budget:** 9,979,270 €
Design of the Synergy call in a nutshell

Grant size: up to 10M€ + 4M€ for 6 years

NEW: other major experimental and field work costs, excluding personnel costs.

≥50% of working time in EU or AC and ≥30% of working time on the ERC project

SyG2019: it does not apply to the Principal Investigator applying with a Host Institution outside of EU or AC

HI in general to be in EU or Associated Country (AC)

SyG2019: possible for one PI to be outside of EU or AC

2018: Call budget: 250 M€
2019: 400 M€

2-3-4 Principal Investigators

No restrictions on their location

SyG2019 call closed for submission on 8/11/2018

SyG2019: 3 step evaluation to finish in September 2019

3 Step evaluation: with interviews for all PIs in step 3
## ERC Synergy 2019 – Key features

### What to look for in a SyG proposal?

<table>
<thead>
<tr>
<th>AMBITIOUS RESEARCH PROBLEM</th>
<th>SYNERGETIC ASPECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>• To promote substantial advances at the frontiers of knowledge,</td>
<td>• PIs must demonstrate the synergies, complementarities and added value that could lead to <strong>breakthroughs that would not be possible by the individual Principal Investigators working alone.</strong></td>
</tr>
<tr>
<td>• To cross-fertilize scientific fields,</td>
<td></td>
</tr>
<tr>
<td>• To encourage new productive lines of enquiry and new methods and techniques, including unconventional approaches and investigations at the interface between established disciplines,</td>
<td></td>
</tr>
<tr>
<td>• To enable transformative research not only at the forefront of European science but also to become a benchmark on a global scale.</td>
<td></td>
</tr>
</tbody>
</table>
# ERC Synergy 2019

## What to look for in a SyG proposal?

<table>
<thead>
<tr>
<th><strong>EQUALITY AMONG PIs</strong></th>
<th>• With a designated corresponding PI (cPI) and corresponding HI (cHI) who will be the administrative contacts for the duration of the project</th>
</tr>
</thead>
</table>
| **STRONG COMMITMENT** | • PIs to engage genuinely in the collaboration  
|                        | • ≥50% of working time in EU or Associated Countries (AC) and  
|                        | • ≥30% of working time on the ERC project  
|                        | • SyG2019: 50% commitment requirement to stay in EU or AC does not apply to the PI outside of EU or AC |
## ERC Synergy 2019
Profile of Principal Investigators

### PIs' TRACK RECORDS
- Either an early achievement track-record (Starting or Consolidator stage) or
- A 10-year track-record (Advanced grant stage), *whichever the applicants consider most appropriate* for their career stage

### COMPLEMENTARY EXPERTISE
- Complementarity of the PIs is essential

### JOINT EFFORT
- To foster research at intellectual frontiers
- To allow for new combination of skills and disciplines
- To bring together researchers be that from the same institution or different institutions in the country or EU and Associated Countries wide
A major scientific question of pressing significance with a transformative scientific potential

Involves teams with exceptional combinations of knowledge and skills with the PIs holding a central role

Tackles bold new research themes that require novel approaches and unique collaborations of researchers

Complementarity of the PIs is a must
Loose cooperation or networking between PIs

Simple passing of data or information from one team to another

**Note**: The proposed work does not need to cover more than one discipline or field to be considered for the Synergy grants.
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ERC Synergy 2019 - Proposal Structure

In step 1 only part B1 is reviewed.
Administrative data and eligibility are checked by ERC staff.

Administrative forms (Part A)

1 – General information
2 – Administrative data of participating organisations
3 – Budget
4 – Ethics
5 – Call specific questions

4-6 ERC keywords are selected, panels are not defined at submission

Part B1 (submitted as pdf)
*Evaluated in Step 1 & Step 2 & Step 3*

Text box - Cross-domain nature explanation
a – Extended synopsis 5 pages
b – Curriculum vitae 2 pages *per PI!*
Appendix – Funding ID 2 pages *per PI!
c - Track-record

Part B2 (submitted as pdf)
*NOT evaluated in Step 1 (only in Step 2 & 3)*

Scientific proposal 15 pages
a – State-of-the-art and objectives
b – Methodology
c – Resources (budget breakdown per PI + a joint one)

New SYG2020: each Host Institution has to submit their support letter for the PI(s) hosted by them.

SyG2020: check Guidelines in the 2020 Information for Applicants
ERC Synergy 2020

Intended restrictions for the ERC 2020 calls

Note: pending on the adoption of the ERC Work Programme in July 2019!

<table>
<thead>
<tr>
<th>Call to which the Principal Investigator applied under previous ERC Work Programmes and score received</th>
<th>Calls under the 2020 ERC Work Programme to which a Principal Investigator is eligible to apply</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018 and 2019 all calls</td>
<td>none of the calls</td>
</tr>
<tr>
<td><strong>2018 Starting, Consolidator, or Advanced Grant</strong></td>
<td></td>
</tr>
<tr>
<td>C at Step 1</td>
<td>Synergy Grant</td>
</tr>
<tr>
<td>A or B at Step 3</td>
<td>all calls</td>
</tr>
<tr>
<td>B at Step 1 or 2</td>
<td>all calls</td>
</tr>
<tr>
<td>C at Step 1</td>
<td></td>
</tr>
<tr>
<td><strong>2018 Synergy Grant</strong></td>
<td></td>
</tr>
<tr>
<td>A or B at Step 3</td>
<td></td>
</tr>
<tr>
<td>B at Step 1 or 2</td>
<td></td>
</tr>
<tr>
<td>C at Step 1</td>
<td>Starting and Consolidator Grants (not eligible for AdG2020 and SyG2020)</td>
</tr>
<tr>
<td><strong>2019 Starting, Consolidator, or Advanced Grant</strong></td>
<td></td>
</tr>
<tr>
<td>A or B at Step 2</td>
<td>all calls</td>
</tr>
<tr>
<td>B or C at Step 1</td>
<td>Synergy Grant</td>
</tr>
<tr>
<td>A or B at Step 3</td>
<td>all calls</td>
</tr>
<tr>
<td>B at Step 2</td>
<td>all calls</td>
</tr>
<tr>
<td><strong>2019 Synergy Grant</strong></td>
<td></td>
</tr>
<tr>
<td>B at Step 1</td>
<td>Starting, Consolidator and Advanced Grants (not eligible for SyG2020)</td>
</tr>
<tr>
<td>C at Step 1</td>
<td>Starting and Consolidator Grants (not eligible for AdG2020 and SyG2020)</td>
</tr>
</tbody>
</table>
**ERC Synergy 2020**

Intended restrictions for the ERC 2020 calls

Note: pending on the adoption of the ERC Work Programme in July 2019!

<table>
<thead>
<tr>
<th></th>
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<tr>
<td>C</td>
<td>YES*</td>
<td>1</td>
<td>no</td>
<td>no</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>B</td>
<td>yes</td>
<td>1</td>
<td>yes</td>
<td>no</td>
<td>yes</td>
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<tr>
<td>B</td>
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<td>2</td>
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<td>YES*</td>
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</tr>
<tr>
<td>B</td>
<td>yes</td>
<td>3</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>A</td>
<td>yes</td>
<td>3</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
</tbody>
</table>
Overview

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ERC Synergy 2019 - Evaluation process

**Step 1**
Single panel
all proposals

Remote evaluation of Part B1
• SyG PMs + PEVs (PMs of other calls)

SyG panel chairs and vice chairs meet: preselect proposals for full review
• No of proposals: up to ~7x call budget

Feedback to applicants: for rejected proposals scored 'B' and 'C'

**Step 2**
5 panels formed after step 1
proposals passed to step 2

Remote evaluation of full proposals
• SyG PMs + Remote Referees

Panels meet: preselect proposals for interview
• No of proposals: up to ~3x call budget

Feedback to applicants: for rejected proposals scored 'B'

**Step 3**
max 5 interview panels formed after step 2
proposals passed to step 3

PMs reassess the retained proposals
• based on step 2 reports + interviews
• Interviews: all PIs of all proposals in step 3 will be invited

Panels rank the fundable proposals
• proposals selected up to available call budget (in 2018 approx 30)

Feedback to applicants: for all applicants. Possible scores: 'A' and 'B'

12-15 Feb 2019
2-5 July 2019
9-12 Sept 2019
SyG 2018 – Step 1- Who are the reviewers?
Overview of number and type of reviewers

186 Reviewers; 27 Nationalities; 59 Men and 28 Women

Scientific background

87 Panel Members - PM
(5 chairs and 6 vice chairs)

- Life Sciences (LS): 31
- Physical Sciences and Engineering (PE): 35
- Social Sciences and Humanities (SH): 20

99 Panel Evaluators - PEVs
(Pane members from other ERC Calls)

- Life Sciences (LS): 44
- Physical Sciences and Engineering (PE): 37
- Social Sciences and Humanities (SH): 17
SyG2018 Step 2 & 3 – Who are the reviewers?
Overview of number and type of reviewers

- Panel members:
  - About 85 in 5 panels

- Remote referees (unpaid):
  - 2681 invited – 851 reviews delivered

- Each proposal had 8 to 13 reviews

Remote referees replies to ERC’s invitation to review in step 2

- Submitted: 32%
- Not replied: 22%
- Accepted, not delivered: 2%
- Declined/Cancelled: 44%
Overview

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What are the evaluation criteria?
Excellence is the sole evaluation criterion

EXCELLENCE OF THE RESEARCH PROJECT

- Ground breaking nature
- Potential impact
- Scientific approach
- Synergetic aspects
- In step 1 the feasibility is assessed only => methodology in step 2
- Resources are not assessed in step 1

EXCELLENCE OF THE PRINCIPAL INVESTIGATORS

- Each PI assessed according to their career benchmarks
- Intellectual capacity
- Creativity
- Commitment => evaluated in step 2 and 3 only
ERC SyG 2019 Evaluation questions

SyG2020: check the ERC Work Programme or Information for Applicants to the SyG2020 call in July 2019 for the evaluation questions (slight modifications).

STEP 1: Criterion 1 - Research Project - used in STEP 1, 2 and 3. The answers should be found in part B1, as only the short synopsis is evaluated at step 1.

Ground-breaking nature and potential impact of the research project
• To what extent does the proposed research address important challenges?
• To what extent are the objectives ambitious and beyond the state of the art (e.g. novel concepts and approaches or development between or across disciplines)?
• To what extent is the proposed research high risk/high gain (i.e. if successful the payoffs will be very significant, but there is a higher-than-normal risk that the research project does not entirely fulfil its aims)?

Scientific Approach
• To what extent is the outlined scientific approach feasible bearing in mind the extent that the proposed research is high risk/high gain?
• To what extent does the proposal go beyond what the individual Principal Investigators could achieve alone?
• Reformulated question: To what extent is the combination of scientific elements put forward in the proposal crucial to address the scope and complexity of the research question?
Further questions on Scientific Approach - only in STEP 2 and 3: used from STEP 2 and 3, the reviewers have access to both part B1 and B2

- To what extent are the proposed research methodology and working arrangements appropriate to achieve the goals of the project (based on the full Scientific Proposal)?
- To what extent does the proposal involve the development of novel methodology (based on the full Scientific Proposal)?
- To what extent are the proposed timescales, resources and PI commitment adequate and properly justified (based on the full Scientific Proposal)?
SyG2020: check the ERC Work Programme or Information for Applicants to the SyG2020 call in July 2019 for the evaluation questions (slight modifications)

Criterion 2 – Principal Investigators – **used in all steps**

**Intellectual capacity, creativity and commitment**

- To what extent have the PIs demonstrated the ability to conduct ground-breaking research?
- To what extent do the PIs have the required scientific expertise and capacity to successfully execute the project?

**New question used only in STEP 2 and 3:**

- To what extent does the Synergy Grant Group successfully demonstrate in the proposal that it brings together the elements – such as skills, knowledge, experience, expertise, disciplines, methods, approaches, teams – necessary to address the proposed research question (based on the full Scientific Proposal)?
**Evaluation reports (ER) sent to the applicants**

After the proposals are discussed in the panel meeting, a final score is awarded and the decision summarised in a panel comment.

<table>
<thead>
<tr>
<th>STEP 1 REJECTED PROPOSALS</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>• Predefined standard panel comment based on the score, summarizing the decision taken by the panel</td>
<td></td>
</tr>
<tr>
<td>• Individual assessments, without names and grades</td>
<td></td>
</tr>
<tr>
<td>• Possible scores given by the panel: 'A', 'B', 'C'</td>
<td></td>
</tr>
<tr>
<td>• For 'A' score (passed to step 2) ERs are not provided</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STEP 2 REJECTED PROPOSALS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Carefully drafted panel comments for each rejected proposal</td>
<td></td>
</tr>
<tr>
<td>• Individual assessments, without names and grades</td>
<td></td>
</tr>
<tr>
<td>• Possible scores: 'A', 'B'</td>
<td></td>
</tr>
<tr>
<td>• For 'A' score (passed to step 3) ERs are not provided</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>STEP 3 ALL PROPOSALS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>• Carefully drafted panel comments for each proposal</td>
<td></td>
</tr>
<tr>
<td>• Individual assessments, without names and grades</td>
<td></td>
</tr>
<tr>
<td>• Possible scores: 'A', 'B'</td>
<td></td>
</tr>
<tr>
<td>• Outcome based on ranking: 'A' – (funded; reserve; not funded, but excellent quality) 'B' - not fundable</td>
<td></td>
</tr>
</tbody>
</table>
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Hints and tips
How to prepare an ERC SyG proposal?

THINK BIG
**Hints and tips**

**How to prepare an ERC SyG proposal?**

- **Have an original and exciting idea** that requires the **joint effort** of 2 or 3 or 4 PIs
- **Design a research project** to implement the idea
  - It is not about a consortium, but about a tight-knit small group of PIs and their teams. The PIs are equal and indispensable for the project!
- **Get a letter of support from your Host Institution** - note a change for **SyG2020** (in Syg2019, only the corresponding HI provided a letter)
  - SyG2020: each HI has to provide a support letter for the PI(s) hosted by them*
- **Write** the research proposal (carefully plan the resources)
  - Choose carefully the 4-6 keywords: applications are not submitted to a StG/CoG/AdG type of the panel
- **Get feedback** from your peers
- **Submit** your research proposal **before the deadline** -> fully electronic/web based submission system

* Pending on the approval of the ERC Work Programme 2020)
Hints and tips
Questions to ask yourself as an applicant

Principal Investigators

• Is each of the PIs internationally competitive as a researcher at each of their career stage and in each of their discipline?
• Is each of the PIs able to work independently, and to manage a 6-year project with a substantial budget?
• How strong is the group of PIs as a whole?
• Does the proposal demonstrate that the PIs bring together the necessary elements to address the research question?
Hints and tips

Questions to ask yourself as an applicant

Research Project

• Why is the proposed project important?
• Does it promise to go substantially beyond the state of the art?
• Has it the chance the cross-fertilize disciplines?
• What is the scientific transformative potential?
• Does it have a grand challenge that can boost European research?
• Why are we the best/only persons to carry it out?
• Why is this particular combination of the PIs the best for the project?
• Is the other person(s) really needed as a PI or only as a team member?
• Is it timely? (Why wasn't it done in the past? Is it feasible now?)
• What's the risk? Is it justified by a substantial potential gain? Do we have a plan for managing the risk?
Typical reasons for rejection

Principal investigators
- Insufficient track-record
- Insufficient (potential for) independence (StG and CoG)
- Insufficient experience in leading projects (AdG)
- Complementarity of PIs not evident enough
- Not evident that the necessary elements can be successfully brought together (skills, knowledge, experience, expertise, disciplines, methods, approaches, teams)

Proposed project
- Scope: Too narrow ↔ too broad/unfocussed
- Not synergetic enough
- Incremental research
- Work plan not detailed enough/unclear
- Insufficient risk management

Poor interview: prepare well! (all PIs in step 3 are invited to Brussels)
Hints and tips
Preparing an application

Differences in Part B1 and Part B2

In **Step 1**: Panel members (act as generalists) they see only **Part B1** of your proposal: Prepare it accordingly!

- Pay particular attention to the **ground-breaking nature** of the research project – no incremental research. State-of-the-art is not enough. Think big!
- For SyG: Synergetic aspects crucial (complementarity and possibly interdisciplinary to be emphasised)
- Know your competitors – what is the **state of play** and why is your idea and scientific approach outstanding?
- **Only the extended Synopsis is read at Step 1**: concise and clear presentation is crucial (**Outline** of the **methodological approach** – feasibility is assessed)
- Show, if applicable for StG and CoG profiles, the **scientific independence** in the CVs, the scientific leadership in the AdG profile
- **Funding ID** to be filled in carefully
Hints and tips
Preparing an application
Differences in Part B1 and Part B2

- In Step 2: Both Part B1 and B2 are sent to specialists around the world (specialised external referees)
  - Do not just repeat the synopsis
  - Provide sufficient detail on methodology, work plan, selection of case studies etc. (15 pages) (references do not count towards page limit)
  - Check coherency of figures, justify requested resources (outside of 15 pages)
  - Explain involvement of additional team members (it is possible to have further beneficiaries/partners in the project)
  - Provide alternative strategies to mitigate risk

In Step 3: no new reviews are written, but part B1 and B2 are re-assessed
Explain the budget properly!

- Budget analysis carried out in Step 3 evaluation.
- Panels have the responsibility to ensure that resources requested are reasonable and well justified.
- Budget cuts need to be justified on a proposal-by-proposal basis (no across-the-board cuts).
  
  **Not explained costs are often cut!**

- Panels recommend a final maximum budget based on the resources allocated/removed.
- Panels do not 'micro-manage' project finances.
- Awards made on a 'take-it-or-leave-it' basis: no negotiations.
- Ask for funding for Open Access in case needed—this is obligatory in Horizon2020!

**Rumour:** *Ask for more money, the reviewers will anyhow cut it down.*

**NOT true:** however, unexplained or non-motivated requests can be cut, so if you artificially inflate your budget, it will be reduced.
When writing the CVs

- Remember that the CVs/Track Records are as important as the project!
- Explain what has been each PI's own contribution to their key publications.
- Explain publishing habits in the field and country if needed.
- If the PI knows that he/she has gaps or other issues in the CV (e.g. co-authored publications), explain them.
- Describe activities which can indicate scientific maturity.
- Use the CV template provided by the ERC in the submission system
- No need to provide PhD supporting documents

Rumour: *One needs publications in Nature/Science/High Impact Factor journals to succeed.*

✗ NOT true: in addition note: for StG profiles: publishing with senior scientists (former supervisors) raises doubts about maturity/scientific independence.
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Observations: SyG 2018 funded proposals

Majority are interdisciplinary, across multiple ‘regular’ ERC panels

Number of panels spanned by using keywords selected by the applicants in the submitted and funded proposals – one possible measure of interdisciplinarity
**SyG 2018 Results**

Success rates by amount awarded / amount requested

**SYG 2018 Success rate (SR) by HI country**
calculated by total awarded / total requested budget

Overall SR = 9.6
SYG 2018 results
Conclusions

• Projects funded appear to be very high quality
• Profile of the PI: predominantly AdG type
• Median age 50 yrs
  • vs ADG 2017 @ 52 yrs
• Average grant size 9.5 M €
• 70 % funded proposals have at least 1 ERC grantee
• 73 % of funded proposals can be considered interdisciplinary
• Evaluation is robust
• Procedures worked well
• Scalable for increase in submissions and increase in budget in 2019
## ERC SyG 2019 Evaluation Timeline

<table>
<thead>
<tr>
<th>Event</th>
<th>SyG2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submission Deadline</td>
<td>8 Nov</td>
</tr>
<tr>
<td>Initial Panel Chairs' meeting</td>
<td>6 Dec</td>
</tr>
<tr>
<td>Step 1 Meeting</td>
<td>12-15 Feb 2019</td>
</tr>
<tr>
<td>Step 2 Meeting</td>
<td>2-5 July 2019</td>
</tr>
<tr>
<td>Step 3 Meeting</td>
<td>9-13 Sept 2019</td>
</tr>
<tr>
<td>Expected feedback to applicants</td>
<td>12 April 2019</td>
</tr>
<tr>
<td></td>
<td>30 Aug 2019</td>
</tr>
<tr>
<td></td>
<td>31 Oct 2019</td>
</tr>
<tr>
<td>Final Panel Chairs' meeting</td>
<td>13 Feb 2020</td>
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SYG 2019 – 2018
Overview of the proposals received

<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
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<tbody>
<tr>
<td>Proposals</td>
<td>299</td>
<td>288</td>
</tr>
<tr>
<td>PIs</td>
<td>980</td>
<td>951</td>
</tr>
<tr>
<td>Men</td>
<td>772</td>
<td>728</td>
</tr>
<tr>
<td>Women</td>
<td>208</td>
<td>223</td>
</tr>
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<td>% F</td>
<td>21%</td>
<td>24%</td>
</tr>
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<td>HIs</td>
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<td>Beneficiary countries</td>
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<table>
<thead>
<tr>
<th></th>
<th>2018</th>
<th>2019</th>
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</thead>
<tbody>
<tr>
<td>Av. Duration (months)</td>
<td>69</td>
<td>69</td>
</tr>
<tr>
<td>Av. # PIs</td>
<td>3.3</td>
<td>3.3</td>
</tr>
<tr>
<td>Av. budget requested</td>
<td>8.4 M€</td>
<td>8.6 M€</td>
</tr>
<tr>
<td>Av. # beneficiaries</td>
<td>3.0</td>
<td>3.1</td>
</tr>
<tr>
<td>Av. # HIs</td>
<td>2.8</td>
<td>2.8</td>
</tr>
<tr>
<td># proposals with partners</td>
<td>68</td>
<td>47</td>
</tr>
<tr>
<td>% submissions including partner organisations</td>
<td>23</td>
<td>16</td>
</tr>
</tbody>
</table>
SYG 2019 PIs' Profile

SyG2020: intended relaxation of resubmission rules for early career scientists in an effort to encourage their applications to the SyG call

SYG 2019 PIs: # years since PhD
88 % "ADG" profile, median = 21 years
SYG 2019 PIs’ Nationality

SYG 2019 PIs by nationality

EU15 (785)
EU13 (43)
AC (73)
Non-FP (87)
Unknown

# PIs

Other PIs
cPI
SYG 2019 Details on Host Institutions (1)

ex.: there are 70 Spanish HIs in all the submitted proposals

SYG 2019 # submissions by country of HI

EU15 (648) EU13 (37) AC (78) Non-FP (56)

HI

cHI
Take home messages

• Competitive call
  – only exceptional proposals are likely to be funded that will demonstrate that the truly ambitious research questions could lead to breakthroughs only through the joint effort of the complementary and synergistic group of PIs.

• ‘Synergy’ does not mean a loose consortium
  – The interaction would yield something more than just the sum of the individual parts.
  – To yield possibly either unforeseen, completely new science, to cross fertilize disciplines or to solve important research problems that until now could not be dreamt of solving.

• Early career applicants are encouraged to apply
  – Regardless of the score received in SyG2019, applicants will be to apply to the StG and CoG calls under the ERC Work Programme 2020
Preparing your application

Information sources

- Check the **ERC website** for latest funding opportunities: [https://erc.europa.eu/](https://erc.europa.eu/)
  - 3 videos about ongoing Synergy grants are published
- **Register early**, get familiar with the European Commission's Participant Portal system, download the templates and start filling in the forms
- View the **step-by-step video** Introduction to application process, including tips & tricks for the interview: [https://vimeo.com/94179654](https://vimeo.com/94179654)
- Use the **help tools and call documents** (*Information for Applicants*, Work Programme, Frequently Asked Questions) to prepare your proposal
  - Read the guidelines carefully!
  - Find out about the formatting rules and page limits to respect!
  - Check statistics on ERC website
- **Talk to your Institution's grant office and other ERC grantees**
- **Contact your National Contact Point if you have questions**
SyG 2013: Proposals selected for funding

• BlackHoleCam – "Imaging the Event Horizon of Black Holes"

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heino Falcke</td>
<td>Stichting Katholieke Universiteit / Radboud University Nijmegen</td>
<td>NL</td>
</tr>
<tr>
<td>Micheal Kramer</td>
<td>Max-Planck-Institut für Radioastronomie</td>
<td>DE</td>
</tr>
<tr>
<td>Luciano Rezzolla</td>
<td>Max Planck Institute for Gravitational Physics/Albert Einstein Institute</td>
<td>DE</td>
</tr>
</tbody>
</table>

'Are black holes just a theorist’s dream?'

'Prove the existence of event horizons, one of the cornerstones of general relativity '

13 975 744 €
Thank you!

Don't hesitate to contact us:
ERC-SYG-APPLICANTS@ec.europa.eu
## ERC 2020 WP Planning

<table>
<thead>
<tr>
<th>Call Opens</th>
<th>Call closes (cut-off dates for PoC)</th>
<th>Budget million EUR (estimated number of grants)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18/07/2019</td>
<td>05/11/2019</td>
<td>350 (39)</td>
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</table>
Extra slides
ERC Work Programme 2020

Anticipations
ERC Synergy 2019
Based on core ERC principles

| EXCELLENCE AS SOLE CRITERIUM | At project and at Principal Investigator level
|                            | Encompasses the synergetic aspects |
| 'BOTTOM-UP'                | • Research priorities and the configuration of the group determined by the individual investigators |
| NO DISCIPLINARY PRIORITIES | • Projects expected to cover more than one discipline or research field, but not obligatory |
| NOT 'CONSORTIA' TYPE       | • Not loose collaborative projects
|                            | • With adequate working arrangements to suit the objectives of the project |
Example of Synergy projects
video available on the ERC website

- HELMHOLTZ – "Holistic evaluation of light and multiwave applications to high resolution imaging in ophthalmic translational research revisiting the helmholtzian synergies"

<table>
<thead>
<tr>
<th>José-Alain SAHEL</th>
<th>Fondation Voir et Entendre</th>
<th>FR</th>
</tr>
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<tbody>
<tr>
<td>Mathias FINK</td>
<td>Fondation Pierre-Gilles de Gennes</td>
<td>FR</td>
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</table>

"The eye, a 'small brain' with easily accessible structures, at the crossroad of human diseases"
SyG 2013: Proposals selected for funding
video available on the ERC website

• MODELCELL – "Building a Model Cell to Achieve Control of Cellular Organization"

<table>
<thead>
<tr>
<th>Marileen Dogterom</th>
<th>Stichting Fundamenteel Onderzoek der Materie (FOM)</th>
<th>NL</th>
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<tbody>
<tr>
<td>Anna Akhmanova</td>
<td>Universiteit Utrecht</td>
<td>NL</td>
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'Understand the self-organizing principles of cells'

↓

'Reconstitute, understand, and control the self-organization of functional cytoskeletal systems'

7 150 840 €
**BrainPlay: The self-teaching brain**

<table>
<thead>
<tr>
<th>Member</th>
<th>Institution</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michael BRECHT (DE)</td>
<td>HUMBOLDT-UNIVERSITAET ZU BERLIN</td>
<td>DE</td>
</tr>
<tr>
<td>Daphne BAVELIER (FR)</td>
<td>UNIVERSITY OF GENEVA</td>
<td>CH</td>
</tr>
<tr>
<td>Robert GÜTIG (DE)</td>
<td>MAX PLANCK INSTITUTE FOR EXPERIMENTAL MEDICINE</td>
<td>DE</td>
</tr>
<tr>
<td>Dietmar SCHMITZ (DE)</td>
<td>CHARITÉ – UNIVERSITÄTSMEDIZIN BERLIN</td>
<td>DE</td>
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</table>

- What are the objective functions that govern synaptic plasticity?
- What behavioral mechanisms are involved in self-teaching?
- What is the brain state of play and how does it influence learning?

Budget: 9 781 250 €
SyG 2018: Proposal selected for funding

- **DHARMA - The Domestication of ‘Hindu’ Asceticism and the Religious Making of South and Southeast Asia**

<table>
<thead>
<tr>
<th>Emmanuel FRANCIS (BE)</th>
<th>CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE (FR)</th>
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</thead>
<tbody>
<tr>
<td>Arlo GRIFFITHS (NL)</td>
<td>ÉCOLE FRANÇAISE D'EXTRÊME-ORIENT (FR)</td>
</tr>
<tr>
<td>Annette SCHMIEDCHEN (DE)</td>
<td>HUMBOLDT UNIVERSITÄT (DE)</td>
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- An investigation of Hinduism in a broad range of regional contexts in South and South East Asia to uncover the complex interplay of religion, state and society in between the 6th and 13th centuries.

Budget: 9 820 868 €
SyG 2018: Proposal selected for funding

- **EXPLO** - Exploring the dynamics and causes of prehistoric land use change in the cradle of European farming

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Albert HAFNER (CH)</td>
<td>UNIVERSITY OF BERN</td>
<td>CH</td>
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<tr>
<td>Willy TINNER (CH)</td>
<td></td>
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<tr>
<td>Amy BOGAARD (CA)</td>
<td>UNIVERSITY OF OXFORD</td>
<td>UK</td>
</tr>
<tr>
<td>Kostas KOSTAKIS (EL)</td>
<td>ARISTOTLE UNIVERSITY OF THESSALONIKI</td>
<td>HL</td>
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</table>

EXPLO aims to understand the introduction, evolution and environmental context of early agriculture in the southern Balkans and northern Greece by combining archaeological, bioarchaeological, palaeoecological and palaeoenvironmental approaches within the context of Neolithic and Bronze Age wetland sites.

*Budget: 6 403 199€*
SyG 2018: Proposal selected for funding

- DYNASNET – "Dynamics and Structure of Networks"

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<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Laszlo LOVASZ (HU)</td>
<td>HUNGARIAN ACADEMY OF SCIENCES (RENYI ALFRED</td>
<td>HU</td>
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<td></td>
<td>MATEMATIKAI KUTATOINTEZET)</td>
<td></td>
</tr>
<tr>
<td>Laszlo BARABASI (HU)</td>
<td>CEU (KOZEP-EUROPAI EGYETEM);</td>
<td>HU</td>
</tr>
<tr>
<td>Jarsolav NESETRIL (CZ)</td>
<td>UNIVERZITA KARLOVA</td>
<td>CZ</td>
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</table>

Networks are ubiquitous

Main math goals

Classification of network dynamics
- conservative (traffic, energy, abelian sandpiles)
- diffusive (load balancing, spread of information, infectious diseases)
- sudden changes (phase transitions, traffic jams, epilepsy)
- control & controllability

Dream math result: Regularity principle for dynamic networks
(a compact description of dynamical networks)

Budget: 9 315 424 €
SyG 2018: Proposal selected for funding

**Natural BionicS – "Natural Integration of Bionic Limbs via Spinal Interfacing"**

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<tr>
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<tbody>
<tr>
<td>Dario FARINA (IT)</td>
<td>Imperial College of Science, Technology and Medicine</td>
<td>UK</td>
</tr>
<tr>
<td>Antonio BICCHI (IT)</td>
<td>Fondazione Istituto Italiano di Tecnologia</td>
<td>IT</td>
</tr>
<tr>
<td>Oskar ASZMANN (AT)</td>
<td>Medizinische Universitaet Wien</td>
<td>AT</td>
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</table>

Design of artificial limbs that the patient will not only control but also feel

Creation of bio-connectors to access the spinal cord circuitries

Surgery (A) - Neural interfacing (B) – Robotics(C)

Budget: 9 984 021 €
**SyG 2018: Proposal with a DK Host Institution**

**HighResCells** – "A synergistic approach toward understanding receptor signaling in the cell at very high resolution"

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<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Andreas LUECKTHUN (DK)</td>
<td>University of Zurich</td>
<td>CH</td>
</tr>
<tr>
<td>Ohad MEDALIA (IL)</td>
<td>University of Zurich</td>
<td>CH</td>
</tr>
<tr>
<td>Jesper Velgaard OLSEN (DK)</td>
<td>University of Copenhagen</td>
<td>DK</td>
</tr>
<tr>
<td>Jose Maria CARAZO (ES)</td>
<td>CSIC</td>
<td>ES</td>
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</table>

- A fundamental improvement of structural and functional understanding of receptors in the cellular context
- Developing the technologies to solve such problems for *any* receptor
- Creating the conceptual understanding for constructing more powerful therapeutic reagents

**Budget:** 8.273.457 €
**Aim:**
Electronic band structure and a key low energy degree of freedom, characterizes most, but not all crystalline solids with astonishing success.

HERO aims to go beyond the state of the art in accounting for systems with multiple correlated order parameters.

Will be applied to condensed matter physics, fundamental quantum physics, etc.

<table>
<thead>
<tr>
<th>Hero – &quot;Hidden, entangled and resonating orders&quot;</th>
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<tbody>
<tr>
<td><strong>Gabriel AEPPLI (CH)</strong></td>
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<tr>
<td>Nicola SPALDIN (UK)</td>
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<tr>
<td>Henrik RONNOW (DK)</td>
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<tr>
<td>Alexander BALATSKY (SE)</td>
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**Budget:** 13 937 498€