The ultimate RMA support system for ERC

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Agenda

- The ERC quick recap
- The main ERC “pitfalls”
- Screening candidates
- The ERC research project
  - The What
  - The How
  - Suggested ERC thinking process
- ERC Panel selection
- Feeding the reviewer
- Bonuses...

About us

- Enspire Science Ltd.
- Tel-Aviv based
- Over 20 years of hands-on experience
  - ERC since 2007
  - Experts in all main domains (PE, LS and SH)
- Consulting
- Training
Baseline

Documentation

• ERC Website
• ERC Work programme
• ERC guide for applicants
• ERC Info days

Our Focus today

• Primarily conceptual, while not neglecting the technical
• What and when to do with ERC applicants

Critical

Counter-intuitive

AdG-sensitive
THE ERC QUICK RECAP
ERC Basics – What is it all about?

- **What?**
  - Bottom-up – any field of research, no predetermined priorities
  - Frontier research, High-risk & High-gain
  - Personal grant - focus is on the PI and individual team
  - The evaluation is done by a review panel system with 3 scientific domains:
    - Life Sciences (LS)
    - Physical Sciences and Engineering (PE)
    - Social Sciences and Humanities (SH)
ERC Basics — What is it all about?

• Who?
  – Principle Investigators (PIs) who can demonstrate the **ground-breaking** nature, **ambition** and **feasibility** of their scientific proposal
  – **Creative** and **independent** PIs
  – Irrespective of gender, age, nationality or institution of the PI and other potential biases
  – Research-oriented career
    • Rather than industry or teaching
    • Clinicians and Engineers: the “applicative thinkers” challenge

• When?
  – One deadline per category per year

**Sole evaluation criterion – Scientific Excellence**
**Substantially different from most other grants – counter intuitive**
<table>
<thead>
<tr>
<th>ERC calls – Overview</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Starting Grant (StG)</strong></td>
</tr>
<tr>
<td>2 ≤ PhD ≤ 7</td>
</tr>
<tr>
<td><strong>Budget</strong></td>
</tr>
<tr>
<td>1.5 M€ (+ 0.5M€)**</td>
</tr>
<tr>
<td>150,000€</td>
</tr>
</tbody>
</table>

[**] Eligibility is assessed relative to Jan 1st of the corresponding work program year.
[**] Justified purchase of major equipment / access to large-scale research infrastructures / relocation costs
Extension of the “effective elapsed time for eligibility” (EETE)

- Career Breaks
  - Before or after first eligible degree:
    - Maternity leave: 18 months / child (or longer if documented)
    - Paternity leave: actual documented leave as documented
  - Only after first eligible degree:
    - Long-term illness of the PI or close family member: as documented
    - National service: as documented
    - Clinical training received by the PI: max extension of 4 years

- If MD is the first/only eligible degree
  - StG: 4-9 years past MD degree
  - CoG: 9-14 years past MD degree
### Enspire Science — The eligibility window calculator

<table>
<thead>
<tr>
<th>Date of Diploma (DD/MM/YYYY) - Note 1</th>
<th>08/08/2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical doctor (MD) is first or only eligible degree</td>
<td></td>
</tr>
<tr>
<td>Maternity leaves (No. of children) - Note 3</td>
<td>2</td>
</tr>
<tr>
<td>Other career breaks (days) - Note 4</td>
<td>17</td>
</tr>
<tr>
<td>Calculated Extension days</td>
<td>1113</td>
</tr>
</tbody>
</table>

**V2 with more goodies is coming up soon**

**ERC Categories - Calculated for your data**

<table>
<thead>
<tr>
<th>Year</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>ERC Categories eligible without extension</td>
<td>Closed</td>
<td>CoG</td>
<td>CoG</td>
<td>CoG</td>
<td>CoG</td>
</tr>
<tr>
<td>ERC Categories eligible with extension</td>
<td>Closed</td>
<td>StG</td>
<td>StG</td>
<td>CoG</td>
<td>CoG</td>
</tr>
</tbody>
</table>
THE MAIN ERC “PITFALLS”
Main “ERC pitfalls” — PI related

**Professional aspects**
- PI screening “ERC material”
- Investigator-driven – Leadership, creativity, capacity, expertise
- Independence
- International visibility
- Track record

**Human / personal aspects**
- Counter-intuitive
- Not allocating enough time to prepare
- Recycling / copying
- Urban myths galore
- Advanced Grant (AdG) applicants
Main “ERC pitfalls” — project and proposal related

**Project related**
- Elusive evaluation criterion – “Excellence”
- Lack of high-risk or high-gain
- Incremental work
- Low-quality hypothesis
- “Fishing expeditions”
- Competition is not addressed well
- Collaborations
- Open-end
- Fragmentation

**Proposal / text related**
- Not getting to the point fast enough (or at all)
- Poor text flow
- “Cut and Paste”-ing
- Recycling / Copying
SCREENING CANDIDATES THE “ERC MATERIAL”
## ERC candidate profile

**Creative thinkers, non-incremental track record, able to create paradigm shifts**

<table>
<thead>
<tr>
<th>StG</th>
<th>CoG</th>
<th>AdG</th>
</tr>
</thead>
</table>
| • Proving independence and maturity  
• Showing progress from PhD/ Postdoc | • Critical | • Critical  
• Non-incremental research is a common issue |

### Scientific production and competitiveness

<table>
<thead>
<tr>
<th>StG</th>
<th>CoG</th>
<th>AdG</th>
</tr>
</thead>
</table>
| • Promising track record of early achievements  
• At least 1 important publication as main author w/o PhD supervisor | • Several high-impact publications as main and senior author  
• Ascending trend of publications & citations | • Active 10 years track record – Fresh high-impact publications |

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h-Index (Hirsch number)

- Suggested in 2005
- By Jorge E. Hirsch – a theoretical physicist
- Most popular index
- **Not required** in ERC, use only if relevant

- Other indices:
  - i10-index (Google)
  - g-index
  - e-index

- A strong **discipline bias**, don’t be discouraged
- “…field-relevant bibliometric indicators **may** also be included”
## ERC candidate profile

### International visibility

<table>
<thead>
<tr>
<th>StG</th>
<th>CoG</th>
<th>AdG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post-doc/position abroad</td>
<td>Recognized internationally</td>
<td>Recognized internationally</td>
</tr>
<tr>
<td>Invited talks</td>
<td>Invited talks</td>
<td>Invited talks</td>
</tr>
<tr>
<td>Networks &amp; collaborations</td>
<td>Networks &amp; collaborations</td>
<td>Networks &amp; collaborations</td>
</tr>
</tbody>
</table>

### Funding ID

<table>
<thead>
<tr>
<th>StG</th>
<th>CoG</th>
<th>AdG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not mandatory, dependent</td>
<td>Critical</td>
<td>Critical</td>
</tr>
<tr>
<td>on time point</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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## ERC candidate profile

### Discipline shift in career path

<table>
<thead>
<tr>
<th>StG</th>
<th>CoG</th>
<th>AdG</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Possible if research benefits from the interdisciplinarity</td>
<td>• If research benefits from interdisciplinarity and supported by publications</td>
<td>• Less probable</td>
</tr>
</tbody>
</table>

### Interdisciplinary research (current)

Encouraged when well justified, not a must

### Mentoring new scientists/Leading a research team

<table>
<thead>
<tr>
<th>StG</th>
<th>CoG</th>
<th>AdG</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Not mandatory – dependent on timepoint</td>
<td>• Critical</td>
<td>• Critical</td>
</tr>
</tbody>
</table>
**ERC candidate profile**

**Point in time, career-wise**

<table>
<thead>
<tr>
<th>StG</th>
<th>CoG</th>
<th>AdG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is it too early?</td>
<td>Publication status</td>
<td>Publication status</td>
</tr>
<tr>
<td>Transition to CoG</td>
<td>Personal considerations</td>
<td>Personal considerations</td>
</tr>
<tr>
<td></td>
<td>Transition to AdG</td>
<td></td>
</tr>
</tbody>
</table>

**Point in time, concept-wise**

- Are you ahead of the **competition**?
- Will it be too late next year?
- Is it mature enough?
- Do you have convincing preliminary findings?
- Do you have any pending publications?

**Strike the iron while it’s hot**

‘Why ME, Why NOW, Why THIS project?’
THE ERC RESEARCH PROJECT
ERC - An unstructured grant

Part B1 – Section a (extended synopsis)

5 pages

Part B2

15 pages
The “What” and the “How”

Conceptual: **What** do you want to do
- High gain
- High risk
- Non-incremental research
- Hypothesis-driven
- The unique position of the PI (conceptual)

Operational: **How** to do that
- Scientific approach
- Methodology
- Collaborations in ERC
- Open end
- Fragmentation
- The unique position of the PI (feasibility)
THE “WHAT”
High gain – not trivial

**High gain**
- Major
- Significant breakthroughs
- Disruptive
- Global scale
- Requires zooming out
  - Wider scope
  - Impact on other disciplines?

**Not so high gain**
- Minor
- “More of the same”
- Limited in scope
- Local
- “Inflated” in comparison to the direct impact
High risk

“*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*”

- High risk – Conceptual vs. Operational
  - ‘A lot of work’ is not the type of risk to aim for
  - Technical/operational risks should not harm the feasibility (e.g. choosing an approach you cannot implement)
The traditional “risk-meter”

- Low risk
- High risk
- Extreme risk
- Catastrophic risk

Low risk: Highly feasible
Not ambitious

Too Ambitious: “Hand-waving”

Counter-intuitive
ERC High Risk – The 2 dimensions

- Critical
- Counter-intuitive

Your ERC project

- Too ambitious

Fishing expeditions

Low risk / Incremental

PI Capacity / expertise / preliminary findings

Feasibility of scientific approach

- High
- Low

Risk type

- Conceptual
- Operational

The PI Creativity / Leadership
High risk – non-Incremental research

Relative

• To your past achievements
• To the State-of-the-Art
  – Yours
  – Peers / others
  – Industry
• To your ongoing work
  – A direct, trivial continuation, or is it “THE project”?
  – Is it only resource-dependent work (“fishing expeditions”)?
• Is it new to you or to the community?

Conceptual

• How big is the scientific leap forward?
• Link to the high risk
• Indicators:
  – (research) Uncertainty - Level of assumptions
  – Stepping out of the PI’s “comfort zone”

Critical

Counter-intuitive

AdG-sensitive
HYPOTHESIS IN ERC
Hypothesis in ESRs

Quotes from recent ESRs – both awarded and rejected applications

Without a conceptual framework and hypothesis-testing design, the gain in knowledge would be incremental, not salutatory.

In this regard, the concepts and approaches of the project are quite “classical”. They are also risky for the hypothesis-free screening but without significantly going beyond the current scientific or technical state of the art.

Nevertheless, the lack of theoretical background (of the field) and argumentation (of different views, hypotheses...) for the intended study seem a bit problematic (when it comes to evaluate the ground-breaking nature and potential impact).

The project does not articulate a hypothesis around the core functions of these bodies beyond that of knowledge production. It might be more effective to list a series of hypotheses to be tested and the modelling protocols used for the analyses.

A central hypothesis is formulated, which will be tested empirically. Since the main contribution is to be a theoretic one, there is indeed high risk/high gain.

If, however, the hypothesis is confirmed the gain is high, both scientifically and from a societal point of view.

The proposed hypothesis and the set-up of this project clearly show a very innovative PI who is up to the job of leading a small research group.

A major problem of the current project is that it remains unclear how the psychoanalytic hypothesis on the four defensive mechanisms (denial, displacement, reaction formation and undoing) is critically tested. What are the criteria for falsification?

However, a more mechanistic (cognitive and neural) view and a more cognitive view about the processes engaged in this interaction are missing. In addition, a clearer hypothesis about what is expected with the neurophysiological measures is needed. We need something more specific than the inter subject correlation.

The identification of a concrete working hypothesis as well as a better embedding in the human rights theory literature of the proposed theory would have been helpful.

These are valid ideas, but there are many different ways to operationalize these concepts into a formal research plan with testable hypotheses. What specific data will be gathered, what models will be used to establish hypotheses, and how will these hypotheses be empirically tested?

Clear working hypotheses are not presented so that the network analysis for instance, which is underspecified, will remain purely descriptive.

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Hypothesis in ERC – Rationale

- ERC is looking for hypothesis-driven research projects
  - Hypothesis-driven is tightly connected to the “high-risk / high-gain” attributes of ERC
  - Reflects the research ambition level, potential ground breaking impact and creativity
  - Use it if commonly used in the discipline
  - To some, it means **stepping out of the comfort zone**

- **Exceptions**
  #1 Not all disciplines are used to working with hypotheses and **this is fine**, such as: Engineering, Computer sciences, Law, Earth observation, Materials, etc.
  #2 In some disciplines (mainly SH), a hypothesis **is expected** in ERC, although not commonly used
Hypothesis in ERC – in practice

• Our past experience discloses:
  – Weak or too generalised hypothesis
  – General statements
  – No hypothesis at all
  – Confusing the project’s mission for the hypothesis
  – Confusing the research question(s) for the hypothesis
  – ‘I will develop a theory’ statement
  – and more
Hypothesis-driven research

Reduction of a scientific problem to operational form, which allows observation, data analysis and generalization.
Risk assessment via the hypothesis

- If you know the answer beforehand or have a good estimation, the hypothesis is weaker and the risk is lower (could even be considered incremental...)
- The hypothesis is verified or falsified only after the research is completed
- The discovery process: “the big picture” – may not end after 5-years project (“open-end”), even if the hypothesis is verified or falsified

Counter-intuitive
THE “HOW”
Scientific approach

- Realistic and feasible
  - Avoid choosing an approach that cannot be implemented due to technical / operational difficulties
- Unique position of the PI
  - Proven relevant experience and expertise – the PI is the expert
    - Collaboration? [will discuss soon]
- Novel methodology?
  - Is it a must? Can the project’s goal be achieved using traditional methods?
    - Is the use of novel methodology appropriate?
- Work-plan and resources
  - Logical and justified
  - Resolution appropriate to high-risk research and related uncertainty
- Methodology should be presented in both B1 and B2
• Avoid “only resource-dependent projects”
  – “Collation and compilation of existing material in new databases, editions or collections are unlikely to constitute ground-breaking or "frontier" research”
  – Typically do not carry risk
  – “Fishing expeditions”
  – Can be funded elsewhere
  – Common in national grants
  – Don’t recycle
Collaborators in ERC (SyG excluded)

- ERC is a personal grant, not a collaborative project
- No Co-PI
- Collaborators ≠ team members
- Possible – if specific expertise is needed for a particular, focused complementary task. **Not in core research.**

- If you do need collaborator/s:
  - Specify required expertise and justify
  - Identify the collaborator by name
  - Internal / external, from anywhere in the world – choose the best!
  - No restrictions on joint publications
  - Budget considerations
ERC for SH researchers? – YES!

• “I can’t compete with life / exact sciences”
  – You don’t – there is a dedicated budget to SH, and the application is evaluated by scholars from your research domain

• “What is considered to be a ‘high risk research’ in SH disciplines?”
  – A first attempt in proving a bold hypothesis
  – Suggesting a new theoretical framework to a long standing question
  – Paradigm shift: Challenging a common approach by presenting an alternative

The focus is on the expected **impact** – emphasis on **high gain** research, both theoretical and societal (might be more than the high risk)
SUGGESTED ERC THINKING PROCESS
Suggested ERC thinking process – Introduction

• This suggested outline is:
  – A thinking process guide
  – A skeleton
  – A superset of elements
    • Not all elements are relevant to all projects
• We recommend:
  – Follow the logic ("Feed the reviewer")
  – Answer the key questions in the proposal itself
  – Make it your own (being a personal grant)
  – Avoid copying structures from winning proposals
  – Avoid typical mistakes
  – AdGs: Avoid delegating the grant writing
Suggested ERC proposal outline

**Critical**

The big research question

- How will the expected outcomes contribute to understanding the big research question?

Hypothesis

Preliminary findings

- Just reassuring preliminary findings or adding *significant* value? Is there indeed a *knowledge gap*?

Objectives

Operational research questions

- Why did you choose *this* specific methodology?
- How will this methodology contribute to achieving the objectives?

Methodology

Experiments/Applications

- Are the experiments/applications adequately planned in order to answer the research questions?

**Expected outcomes**

Can you suggest possible outcomes?
ERC PEER-REVIEW PANEL EVALUATION SYSTEM
ERCo peer review evaluation panels (ERC panels)

**Physical Sciences & Engineering**

PE1 Mathematics
All areas of mathematics, pure and applied, plus science, mathematical physics and statistics.

PE2 Fundamental Constituents of Matter
Particle, nuclear, plasma, atomic, molecular, gas, and structure, electronic properties, fluids, nanosciences, and systems.

PE3 Condensed Matter Physics
Structure, electronic properties, fluids, nanosciences, and systems.

PE4 Physical and Analytical Chemical Sciences
Analytical chemistry, chemical theory, physical chemistry, and materials science.

PE5 Synthetic Chemistry and Materials
Materials synthesis, structure-properties relations, molecular architecture, organic chemistry.

PE6 Computer Science and Informatics
Informatics and information systems, computer science.

PE7 Systems and Communication Engineering
Electrical, electronic, communication, optical and systems.

PE8 Products and Processes Engineering
Product design, process design and control, construction, and manufacturing.

PE9 Universe Sciences
Astrophysics/chemistry/biology, solar system, stellar, planetary systems, cosmology, space science, instrumemtation, and space systems.

PE10 Earth System Science
Physical geography, geology, geophysics, atmospheric, ecology, global environmental change, and management.

**Life Sciences**

LS1 Molecular Biology, Biochemistry, Structural Biology and Molecular Biophysics
Molecular synthesis, modification, mechanisms and interactions, biochemistry, structural biology, and metabolic pathways.

LS2 Genetics, ‘omics’, Bioinformatics and Systems Biology
Molecular genetics, quantitative genetics, genetic epidemiology, metagenomics, transcriptomics, proteomics, metabolomics, computational biology, biostatistics, and systems biology.

LS3 Cellular and Developmental Biology
Cell biology, development, signal transduction, organogenesis, pattern formation, stem cell biology, in plants and animals, or, with organisms.

LS4 Physiology, Pathophysiology and Endocrinology
Organ physiology, pathophysiology, endocrinology, metabolism, cardiovascular diseases, and metabolic syndromes.

LS5 Neuroscience and Neural Disorders
Neural cell function and signaling, systems neuroscience, neurorheological processes, neurological and psychiatric disorders.

LS6 Immunity and Infection
The immune system and related disorders, biology of infection, biological basis of prevention and treatment of infectious diseases.

LS7 Applied Medical Technologies, Diagnostics, Therapies and Public Health
Development of tools for diagnosis, monitoring and treatment of diseases, pharmacology, clinical medicine, regenerative medicine, epidemiology and public health.

LS8 Ecology, Evolution and Environmental Biology
Population, community and ecosystem ecology, evolutionary biology, environmental biology, microbial ecology.

LS9 Applied Life Sciences, Biotechnology, and Molecular and Biosystems Engineering
Applied plant and animal sciences, forestry, food sciences, applied biotechnology, environmental and marine biotechnology, applied bioengineering, biomass and biofuels, biohazards.

**Social Sciences & Humanities**

SH1 Individuals, Markets and Organisations
Economics, finance and management.

SH2 Institutions, Values, Environment and Space
Political science, law, sustainability science, geography, regional studies and planning.

SH3 The Social World, Diversity, Populations
Sociology, social psychology, social anthropology, demography, education, communication.

SH4 The Human Mind and Its Complexity
Cognitive science, psychology, linguistics, philosophy of mind.

SH5 Cultures and Cultural Production
Literature, philology, cultural studies, study of the arts, philosophy.

SH6 The Study of the Human Past
Archaeology and history.
The panel names are accompanied by a list of “ERC keywords” indicating the fields of research covered by the respective ERC panels:

<table>
<thead>
<tr>
<th>Panel Code</th>
<th>Keywords</th>
</tr>
</thead>
</table>
| PE1 | Mathematics  
All areas of mathematics, pure and applied, plus mathematical physics and statistics |
| PE1.1 | Logic and foundations |
| PE1.2 | Algebra |
| PE1.3 | Number theory |
| PE1.4 | Algebraic and complex geometry |
| PE1.5 | Lie groups, Lie algebras |
| PE1.6 | Geometry, and Global Analysis |
| PE1.7 | Topology |
| PE1.8 | Analysis |
| PE1.9 | Operator algebras and functional analysis |
| PE1.10 | ODE and dynamical systems |
| PE1.11 | Theoretical aspects of partial differential equations |
| PE1.12 | Mathematical physics |
| PE1.13 | Probability |
| PE1.14 | Statistics |
| PE1.15 | Discrete mathematics and combinatorics |
| PE1.16 | Mathematical aspects of computer science |
| PE1.17 | Numerical analysis |
| PE1.18 | Scientific computing and data processing |
| PE1.19 | Control theory and optimization |
| PE1.20 | Application of mathematics in sciences |
| PE1.21 | Application of mathematics in industry and agriculture |
| PE2 | Fundamental Constituents of Matter  
Particle, nuclear, plasma, atomic, molecular, gaseous and solid state physics |
| PE2.1 | Fundamental interactions and fields |
| PE2.2 | Particle physics |
| PE2.3 | Nuclear physics |
| PE2.4 | Nuclear astrophysics |
| PE2.5 | Gas and plasma physics |
| PE2.6 | Electromagnetism |
| PE2.7 | Atomic, molecular physics |
| PE2.8 | Ultra-cold atomic and molecules |
| PE2.9 | Optics, non-linear optics and nano-optics |
| PE2.10 | Quantum optics and quantum information |
| PE2.11 | Lasers, ultra-short lasers and laser physics |
| PE2.12 | Relativity |
| PE2.13 | Thermodynamics |
| PE2.14 | Non-linear physics |
| PE2.15 | Metrology and measurement |
| PE2.16 | Statistical physics (gases) |
| LS1 | Molecular Biology, Biochemistry, Structural Biology and Molecular Biology  
Molecular synthesis, modification, mechanisms and interactions, biochemical molecular biology, signalling pathways |
| LS1.1 | Macromolecular complexes including interactions involving nucleic acid/nucleotides |
| LS1.2 | Biochemistry |
| LS1.3 | DNA synthesis, modification, repair, recombination, degradation |
| LS1.4 | RNA synthesis, processing, modification, degradation |
| LS1.5 | Protein synthesis, modification, turnover |
| LS1.6 | Lipid biology |
| LS1.7 | Glycobiology |
| LS1.8 | Molecular biophysics (e.g., single-molecule approaches, biophysical structural biology, and its methodologies (e.g., crystallography, cryo-ET)) |
| LS1.9 | Molecular mechanisms of signalling pathways |
| LS1.10 | Fundamental aspects of synthetic biology and chemical biology |
| LS2 | Genetics, Genomics, Bioinformatics and Systems Biology  
Molecular genetics, quantitative genetics, genetic epidemiology, edge genomics, transcriptomics, proteinomics, metagenomics, glycobiomics, computational biology, biostatistics, systems biology |
| LS2.1 | Molecular genetics, reverse genetics, forward genetics, genome editing, epigenetics, gene regulation |
| LS2.2 | Quantitative genetics |
| LS2.3 | Genetic epidemiology |
| LS2.4 | Epigenetics and gene regulation |
| LS2.5 | Genomics (e.g., comparative genomics, functional genomics) |
| LS2.6 | Metagenomics |
| LS2.7 | Transcriptomics |
| LS2.8 | Proteinomics |
| LS2.9 | Metabolomics |
| LS2.10 | Glycomics/Lipidomics |
| LS2.11 | Bioinformatics |
| LS2.12 | Computational biology, biostatistics, systems biology |
| LS2.13 | Systems biology |
| LS3 | Cellular and Developmental Biology  
Cell biology, cell physiology, signal transduction, organogenesis, development and stem cell biology, in plants and animals, or, where appropriate, microorganisms |
| LS3.1 | Morphology and functional imaging of cells and tissues |
| LS3.2 | Cytoskeleton and cell behaviour (e.g., control of cell shape, cell migration, mechanosensing) |
| SH1 | Individuals, Markets and Organisations  
Economics, finance and management |
| SH1.1 | Macroeconomics; monetary economics; economic growth |
| SH1.2 | International management; international trade; international business; spatial economics |
| SH1.3 | Developmental economics; health economics; education economics |
| SH1.4 | Financial economics; banking; corporate finance; international finance; accounting; auditing; insurance |
| SH1.5 | Labour and demographic economics; human resource management |
| SH1.6 | Econometrics; operations research |
| SH1.7 | Behavioural economics; experimental economics; neuro-economics |
| SH1.8 | Microeconomics; game theory |
| SH1.9 | Industrial organisation; strategy; entrepreneurship |
| SH1.10 | Management; marketing; organisational behaviour; operations management |
| SH1.11 | Technological change, innovation, research & development |
| SH1.12 | Agricultural economics; energy economics; environmental economics |
| SH1.13 | Public economics; political economics; law and economics |
| SH1.14 | Competition law; contract law; trade law; intellectual Property Rights |
| SH1.15 | Quantitative economic history and history of economics; institutional economics; economic systems |
| SH2 | Institutions, Values, Environment and Space  
Political science, law, sustainability science, geography, regional studies and planning |
| SH2.1 | Political systems; governance |
| SH2.2 | Democratisation and social movements |
| SH2.3 | Conflict resolution, peace, building conflict |
| SH2.4 | Constitutions, human rights, comparative law, humanitarian law, anti-discrimination law |
| SH2.5 | International relations, global and transnational governance |
| SH2.6 | Sustainability sciences, environment and resources |
| SH2.7 | Environmental and climate change; societal impact and policy |
| SH2.8 | Energy, transportation and mobility |
| SH2.9 | Urban, regional and rural studies |
| SH2.10 | Land use and regional planning |
| SH2.11 | Human, economic and social geography |
| SH2.12 | GIS, spatial analysis; big data in political, geographical and legal studies |
| SH3 | The Social World, Diversity, Population  
Sociology, social psychology, social anthropology, demography, education, communication |
| SH3.1 | Social structure, social mobility |
| SH3.2 | Inequalities, discrimination, prejudice, aggression and violence, antisocial behaviour |
| SH3.3 | Social integration, exclusion, prosocial behaviour |
| SH3.4 | Attitudes and beliefs |
| SH3.5 | Social influence, power and group behaviour |
| SH3.6 | Kindship, diversity and identity, gender, interethnic relations |
| SH3.7 | Social policies, welfare |
ERC panel selection

• Technical:
  – **Mandatory:** 1 (primary) panel with 1 corresponding “ERC keyword”
  – **Optional:** 1 additional (secondary) panel, and up to 3 additional ERC keywords
  – The primary panel will probably manage the evaluation process
  – Proposal may be allocated to another panel if panel chairs decide

  — **Lead the peer review panel selection** —

• **Know your audience**
  – Panel chairs are published before the call deadline
  – Panel members’ names are published only after the evaluation process is concluded
  – Learn from previous years:
    • Refer to the Panel members database (next slide)
  – Not all panel members are in the ‘right’ field of expertise
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ERC panel selection

• The peer review evaluation panel structure is a given
• In many cases – a straight-forward choice
• Sometimes it’s not:
  – Interdisciplinary
  – Novel disciplines or specific niches
• The reciprocal effect of the panel and proposal
  – What is in the lead – the panel or the proposal?
  – Make sure that the application is clear and appealing to the selected panel(s)
• Adjust the abstract
• Don’t leave the panel selection to the last minute
FEEDING THE REVIEWER
Feeding the Reviewer

The keys:

- Understanding the point of view of the reviewer, and how it is different than the EC point of view
- We want the reviewer on our side
- We can help the reviewer

The reviewers:

- are only human...
- have limited resources and other constraints
- may be asked to review multiple proposals in parallel
- may not actually read your entire proposal text
- need to complete a pre-defined assessment form
- look for specific answers in specific places in the proposal
- have “emotional feedback” (like/dislike regardless of the facts, consciously or unconsciously)
Feeding the Reviewer

- The top 6 ways to annoy a reviewer:
  - Disregarding the template and formatting instructions
    - Structure, Page limits, Margins, Fonts (Narrow Fonts – extra 20%)
  - Opening the application / major section with a long background text
  - Various text sources / Inconsistent “voice”
    - The polite way of saying “Cut and Paste” and/ or “Patch work”
  - Redundancies and repetition in the text
  - Lack of consistency in the project concept AKA “surprises” during the grant review
  - Mixing the “What” and the “How”
THANK YOU...
Thank you...

... and check out the bonuses we’ve added at the end of this presentation:

- ERC Synergy
- Timeline for supporting ERC applicants
- The ERC Submission checklist

info@enspire-science.com
BONUS: ERC SYNERGY
ERC Synergy Grant (SyG)

• **NOT a regular collaborative grant — this is ERC²**
  
  – Interdisciplinary collaboration of 2-4 **outstanding** PIs (“ERC Material”)
    
    • One of the PIs must be the Corresponding PI
  
  – Bring together complementary skills, knowledge and resources in **new ways** to address ambitious research problems
  
  – Demonstrate **synergies** and added value that could lead to **breakthroughs** that would **not be possible** if the PIs were working alone
 ERC Synergy Grant (SyG)

- **NOT a regular collaborative grant — this is ERC²**
  - Introduce substantial advances at the frontiers of knowledge
  - Cross-fertilize scientific fields: use unconventional approaches and new combinations of skills and disciplines
  - Encourage new lines of enquiry, methods and techniques
  - Enable transformative research at the forefront of EU science and a benchmark on a global scale.
SyG PIs profile

- Each SyG PI will be evaluated according to their individual career stage (StG/CoG/AdG)

  “There is little prospect of an application succeeding in the absence of such a track-record”

Then –

- Whether the collaborative working arrangements between the PIs can ensure scientific excellence

- Present the PIs and explain the group synergy

- Implicitly convey the following messages:
  - The inter-dependencies have unique and significant value
  - The expected breakthroughs depend on the synergy and cannot be achieved individually
  - It is not a typical collaborative project
  - The necessity of each PI to the project
  - Why this synergy project cannot be funded elsewhere
ERC Synergy Grant (SyG)

- Significant **time dedication** (>30%), min. 50% performed in EU/AC
- **New**: 1 PI (except for the Corresponding PI) can be hosted or engaged by an institution **outside** of the EU/AC
- Additional evaluation questions dedicated to the synergy
- 3-step peer-reviewed evaluation, including an interview
- SyG 2018: 295 submitted, 27 funded (250M€) --> 9% success rate
- Increased budget: 400M€ dedicated in 2019 to fund 48 SyG projects – a 60% increase from last year
ERC Synergy Grant (SyG) submission restrictions

- A researcher may participate as PI in only one ERC project at a time.

- A PI of an ongoing ERC project may submit a new ERC proposal if the existing project ends in less than two years after the call deadline.

- A PI may submit proposals to different ERC grant calls published under the same Work Programme, but only the first eligible proposal will be evaluated.

- The composition is expected to remain unchanged throughout the grant’s lifetime.

- If a PI leaves the Synergy Grant Group, the grant may be effected.
ERC SyG evaluation process

Dynamic composition of review panels

80 Panel members and chairs

5 panels of ~15 members each

Panels may be reconfigured to ensure best expertise

Step 1
Assessment of B1 (PIs & Synopsis)

Step 2
Assessment of PIs & (B1 &) B2

Step 3
Interviews

1 locking period
any ERC; 2 locking periods for ERC SyG

1 locking period for SyG Only

No locking period

Funded if sufficient funds are available
BONUS: TIMELINE FOR SUPPORTING ERC APPLICANTS
BONUS: THE ERC SUBMISSION CHECKLIST
ERC Submission checklist

General
• Avoid redundancies and repetitions in the text
• Conform to the templates
• Avoid outdated templates – slight changes may occur from deadline to deadline
• Do not exceed page limits, font size, margins
• Use template tables for Funding ID and budget
• PI’s dedication to the project according to category
• Keep copies of all application documents for backup, during the process
ERC Submission checklist

Uploaded documents:

- Poorly scanned host support letter
- PI name / acronym / title do not match host support letter
- Different acronym / title throughout the proposal (in parts A and B)
- Budget inconsistencies in B2 and part A, missing justifications
- Formatting bugs in the Word document / template
- Low-resolution figures
- Bugs when converting to PDF (typically figures and formulas)
- Mac OS vs. PC Windows; Microsoft Word vs. Latex vs. Open Office
- Template instructions / track changes leftovers in B1 and B2
- Missing panel selection justification in B1 cover page
ERC Submission checklist

Submission system

• Missing contact details / unanswered questions – validate the form!
  – PhD award date [StG/CoG]
  – Page no. references in ethics issues table do not match pages in B2
• Abstract is different than in B1 [should be identical]
• Mistakes & mix-ups of documents
  – Uploading a draft file with comments / tracked changes
  – Uploading a file to the wrong place (e.g. B2 instead of B1)
• Missing documents
  – Ethics issues annex
  – Diploma scan [StG/CoG]
  – Supporting documents for eligibility window extension (children’s birth certificates, etc.)
ERC Submission checklist

Budget

• Justification is key
• Correlate PI dedication to PI labour cost
• Equipment
  – Must be appropriate to the project’s tasks
  – This is not an infrastructure grant
  – Do not exploit the ‘extra’ equipment budget before exhausting the ‘regular’ possible grant
• Subcontracting – generally not recommended, except for:
  – When institutional regulations require this
  – Well-justified complementary marginal work (not core research tasks)
• The PI must be able to justify the budget during the interview [StG/CoG]
We’d appreciate your feedback

Please take a few minutes to answer a short survey about this training:

http://tiny.cc/enspire_earma