ERC Advanced grants – evaluation process from inside

Lieve Moons

Neural Circuit Development & Regeneration Research Group
Department of Biology, KU Leuven
lieve.moons@kuleuven.be
Lieve Moons, PhD

Previously
Vesalius Research Center – VIB/KU Leuven
Research program in vascular/neural development
and cardiovascular and neurodegenerative diseases

Since 2008
Neural Circuit Development & Regeneration RG
Eye as a window to the brain – neurodegeneration/regeneration

Member ERC evaluation panel LS7 - Diagnostic tools, therapies and public health
since 2010: StG – CoG – AdG
panel vice-chair : 2012 -2018

WARNING: The slides only reflect my personal, therefore biased, view
and do not reflect any official ERC position or policy
Panel assignments - expertise

- LS7 - Diagnostic tools, therapies and public health = very diverse panel
  - Expertise: public health & epidemiology - medical engineering – pharmacology, drug design, diagnostics - gene/cell therapy - basic and translational research - clinical application - medical ethics

- Expert profile description - estimation of expertise
  - Scores: 100 for very high expertise, 75 for high, 50 for medium, 25 for low

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<td>Medical engineering and technology</td>
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<td>Pharmacology, pharmacogenomics, drug discovery and design, drug therapy</td>
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• Free keywords
  - Cardiovascular research
  - Ophthalmology
  - Cellular signaling pathways
  - Gene therapy - gene editing
  - Medical imaging technology
  - Gene environment interaction

• The panels are very international, also outside Europe
• Know the expertise areas of your potential evaluators!
Panel assignments

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- Goal: to review proposals
  - from a generalist perspective while keeping expertise
    (e.g. multidisciplinary approach - physiological and (bio)physical angle)
  - sometimes further away from comfort zone/expertise
    (e.g. device for on-line monitoring of physiological parameters in firemen in action)
  - high number and diverse proposals
    - 108 proposal in AdG round of 2017 in LS7 panel
      ± 30 to evaluate
      ± 50 to meta-evaluate
      = 4 reviewers per project
Panel assignments - COI

• Upon receipt of assigned projects: title – authors - abstracts

• By country
  • No proposal from own country
  • No proposal from anybody within KU Leuven
    • leave the room when discussed!

• By history
  • No previous collaborator
    (e.g. no former PhD student or PD fellow, no co-author or common grants)

• For any other reason
  • Invited scientist to...
  • Visiting scholar to...
Step 1 - Individual assessments

- Upon receipt of assigned projects – part B1
- Evaluation via on-line system
  - ± 30 proposals to evaluate (with written report) of which 8 as lead reviewer

- Questions to answer and score
  5.0 (Outstanding) 4.0 (Excellent) 3.0 (Very Good) 2.0 (Good) 1.0 (Non-competitive)

- **Criterion 1: Research Project**
  - Ground-breaking nature, ambition and feasibility

- **Criterion 2: Principal Investigator**
  - Intellectual capacity, creativity and commitment

- Profiles and research proposal count together
  - Score should be minimum 6 to make it to step 2
    - Excellent profiles with weaker project
    - Very good profiles with tremendous project
Step 1 - Panel evaluation

• Before meeting:
  • Comments of all panel members are sent
  • All and average scores of all applications (except COI) are sent

• Panel discusses all applications, but only briefly for those that fall below a score of 3

• Most often discussions start with the highest ranked applications

• APPLICANT
  • showed ability to conduct ground-breaking research
    (e.g. research output, invited lectures, international collaborative network, …)
  • provided evidence of creative independent thinking
    (e.g. patents, co-founder spin-offs, …)
  • has gone beyond the state of the art
    (e.g. prizes, consulting, reviewing, editing activities, contribution to EU grants, …)
  • demonstrated sound leadership on training and advancement of young scientists
    (e.g. student/junior investigator supervision, …)
Step 1 - Panel evaluation

- RESEARCH PROJECT

Top 5 rejections reasons:

- The research is not well positioned - in general
  - in the applying team
- The application does not detail/emphasize enough original aspects
- The proposed plans do not support high risk/high gain: too high/low risk
- The outcome is speculative, not realistic enough (evolution – revolution)
  - ‘Nobody has done it ‘before’
  - ‘I will invent the fastest tool ever’
  - ‘The proposed research is revolutionary, the most advanced’
- The feasibility is hard to judge
  - Add milestones and a timing
  - Describe the team and their specific tasks
  - Mention collaborations with experts in the field
Step 1 - Panel evaluation

- RESEARCH PROJECT
  Other rejections reasons:

  - The experimental plan is not clear enough – what is clear for you is not clear for me – but other panel members can comment
  - Preliminary results and/or available expertise are missing
  - It is not clear that the proposed technology/approach is better than existing ones or will improve clinical practice – describe practical outcome!
  - A true novel idea or concept is missing
  - There is a lack of genericity or application potential
Step 2 - Individual assessments

• Upon receipt of assigned projects – part B2
• Evaluation via online system
  • 32 proposals left – reassigned amongst panel members (COI)
  • ± 8 proposals to evaluate of which 3 as lead reviewer
    = 4 reviewers per project

• External referees are invited (minimum 2 per project)

• Questions to answer and score
  5.0 (Outstanding) 4.0 (Excellent) 3.0 (Very Good) 2.0 (Good) 1.0 (Non-competitive)
  - **Criterion 1: Research Project**
    Ground-breaking nature, ambition, experimental approach and feasibility
  - **Criterion 2: Principal Investigator**
    Intellectual capacity, creativity and commitment

• Profiles and research proposal count together
  • Score should be minimum 7
Step 2 - Panel evaluation

• Before meeting:
  • Comments of all panel members and external reviewers are sent
  • All and average scores of applications are sent

• Panel discusses all applications, but more briefly for those
  • that have a average score below 4
  • that have a average score above 7
    • unless there is high variability amongst reviewers!

• Most often discussions start with the lowest ranked applications

• Discussions are initiated by lead reviewer and result in a final score and a consensus on the overall panel comments

• Some projects are put on hold and re-discussed in perspective to others
  • additional panel (cross-panel) members read project

• Final work: make panel comments – by lead reviewer but read/corrected by all others
Step 2 Panel evaluation

- **RESEARCH PROJECT**
  
  Some rejections reasons:
  - The leap forward in the field is not well explained
  - Preliminary results and/or available expertise are missing
  - It is a fishing expedition
    - too many diverse technologies that do not combine into one final goal
    - lack of proper integration of various WPs
  - The proposal is more of the same as related to ongoing research – overlap with ongoing grants
  - The project is too ambitious - **feasibility**
  - The experimental plan is not worked out in sufficient detail
  - Challenges and alternative approaches are not sufficiently addressed
  - The number of people involved and their specific tasks are not clear

  ✓ **Research first, management after (but is important)**

  - Funding problems : seldom but be specific, explanatory and provide rationale
    - more than ‘I will need 3 PhD students and 250k Euro for this research’
The way to success

**Innovative aspects**
- Describe the original ideas and innovative concepts
- Describe the expected leap forward in the field

**Strategic value**
- Adopt a problem solving approach
- Explain why you - your team/environment

**Feasibility**
- Provide Gantt chart & task decomposition with milestones
- Describe tasks for team and collaborators

**Application potential**
- Mention the generic character
- Translate to other diseases /fields