ERC Advanced grants – evaluation process from inside

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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

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

Medical engineering and technology	Diagnostic tools (e.g. genetic, imaging)	Pharmacology, pharmacogenomics, drug discovery and design, drug therapy	Analgesia	Toxicology	Gene therapy, stem cell therapy, regenerative medicine	Surgery	Radiation therapy	Health services, health care research	Public health and epidemiology	Environment and health risks including radiation	Occupational medicine	Medical ethics
LS7_1	LS7_2	LS7_3	LS7_4	LS7_5	LS7_6	LS7_7	LS7_8	LS7_9	LS7_10	LS7_11	LS7_12	LS7_13

Panel assignments - expertise

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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 on line 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

Preparation   Step 1   Step 2   Summary