



UCL

Université
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de Louvain



LOUVAIN

School of Management

ERC Synergy Process from Inside

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(AdG: 2009-2014, CoG: 2015-2017, Syn:2018-2019)

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Before: Expert profile description

- Estimation of expertise

- 100 for very high expertise, 75 for high, 50 for medium, 25 for low

PE7 Systems and communication engineering: electrical, electronic, communication, optical and systems engineering:

- PE7_9: Man-machine-interfaces: 100
- PE7_3: Simulation engineering and modelling: 75
- PE7_7: Signal processing: 25

...

PE6 Computer science and informatics: informatics and information systems, computer science, scientific computing, intelligent systems

- PE6_9: Human computer interaction and interface, visualization, ...: 100
- PE6_8: Computer graphics, computer vision, multi media: 75
- PE6_12: Scientific computing, simulation and modelling tools: 50

PE1_16: Mathematical aspects of computer science: 100

PE1_17: Numerical analysis: 50

Other countries:     

NB: the panel is very international,
even outside Europe

Before: Expert profile description

- Estimation of expertise
 - 100 for very high expertise, 75 for high, 50 for medium, 25 for low
- Free keywords
 - Model Driven Engineering (MDA)
 - Web Engineering
 - Information Systems
 - User Interfaces
 - Computer-aided design
- Know the expertise areas of your potential evaluators: better they should know you

Before: Expert profile description

- Estimation of expertise
 - 100 for very high expertise, 75 for high, 50 for medium, 25 for low
- Free keywords
- Goals: to review proposals
 - From a generalist perspective while keeping expertise (e.g., man-machine interfaces in bio-engineering)
 - Sometimes, further away from my comfort expertise (e.g., robots inspired by salamander locomotion)
 - High number and very diverse proposals:
 - 5-10 to evaluate, perhaps with additional 1-2 as external
 - 2-5 to meta-evaluate

Upon receipt: conflict of interest

- By country
 - No proposal from anybody from UCL-KULeuven!
 - I always leave the room when discussed
- By history
 - No previous collaborator (e.g., no former PhD student)
- For any other reason
 - Invited scientist to ...
 - Visiting Scholar to ...



On evaluation

- Profiles and research proposal count together
 - Excellent profiles with weak project
 - Very good profiles with tremendous project
- Questions on Profiles
 - Should all PI and Co-PIs have an ERC-AdG-like profile?
 - Should partners have had another ERC in the past?
 - Should partners be of the same age?
 - Should partners have worked together in the past?



On evaluation: research proposal

What is synergy?

- Some etymology: sun (together) + ergon (working)
- Definition: “the interaction or cooperation of two or more organizations, substances, or other agents to produce a combined effect greater than the sum of their separate effects.”
- My definition:
 - Not the sum Σ , but the product Π
- Synergy does not exist per se: it emerges from the proposal
 - I only notice synergy where there is some
 - I immediately see when there is no genuine synergy (pure construction)
- My best souvenir of a winning team: prosthesis robotics + bio-hub + neural surgery



On evaluation: research proposal

What is **not** synergy?

- No scattered effort distribution: P1 will do WP1, P2 will do WP2, P3 will do WP3, then merge into WP4.
- Not Multi-disciplinary, cross-disciplinary only: the results of WP1 will go to WP2, RP is synergistic because it merges AI and medicine.
- Does not have enough expertise: e.g., applying AI in medicine is different from doing research in AI to be applied in medicine.
- Text of the research proposal does not merge various expertises
- Not enough synergistic instruments: “we’ll have Skype meetings and GitHub sites”



On evaluation: research proposal

My Top 5 rejection reasons: the research proposal

1. Is not clear enough: what is clear for you is not clear for me, ask others to comment
2. Is not positioned enough: e.g., wrt SotA
3. Does not detail/emphasize enough original aspects
4. Does not support high risk/high gain: too high/low risk
5. Is speculative, not realistic enough: between evolution and revolution
 - “The research proposal is revolutionary, unique, the most advanced and will deliver groundbreaking results in ...”
 - “The research proposal is synergistic: all partners work together”
 - “Nobody has done it before”
 - “I’ll invent the fastest tool ever”



On evaluation: Project

Other comments

1. Adopt a problem solving approach (e.g., Design Science)
2. ERC \neq H2020 (e.g., risk contingency)
3. You can have a Gantt chart, WP/task decomposition with milestones, do not overdetail
4. Research first, Management after
5. KPIs on results first, management after
6. I have rarely seen any funding problem
 1. Just be specific, explanatory and provide a rationale
 2. Not “I’ll need 5 PhD students and 250k€ for this experiment”



A passion for changing the world
through excellent R&D is the common
hallmark of ERC grants



Questions and answers



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