Writing (ERC) grant applications

AndrzejDziembowski

UNIVERSITAS VARSOVIENSIS

INSTITUTE OF BIOCHEMISTRY AND BIOPHYSICS
POLISH ACADEMY OF SCIENCES

1. 2007 - StG - Ribosomal RNA processing (unsucesfull)
2. **2011 - StG (CoG) - Regulation of Gene Expression by non-canonical poly(A) and poly(U) polymerases (PAPs&PUPs) (successful)**
3. 2018 – AdG: Cytoplasmic polyadenylation as a key regulator of physiological processes (CytoPolyA) (unsuccessful -1th stage)
4. 2021 – AdG: Principles of endogenous and therapeutic mRNA turnover in vivo (ViveRNA) (unsuccessful - 2nd stage)
5. **2022 - AdG : Principles of endogenous and therapeutic mRNA turnover in vivo (ViveRNA) (sucesfull)**

LS2 CoG panel member 2023 & 2025

Andrzej Dziembowski
Institute of Biochemistry and Biophysics, Warsaw

Regulation of Gene Expression by non-canonical poly(A) and poly(U) polymerases (ncPAPs & PUPs)

Principles of endogenous and therapeutic mRNA turnover *in vivo*

Vive RNA

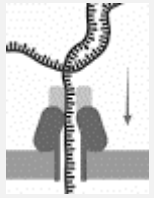
Andrzej Dziembowski

International Institute of Molecular and Cell Biology
&
University of Warsaw

The ViveRNA project is divided into 3 parts

We will:

01 Develop an enhanced Direct RNA Sequencing pipeline (eDRS)



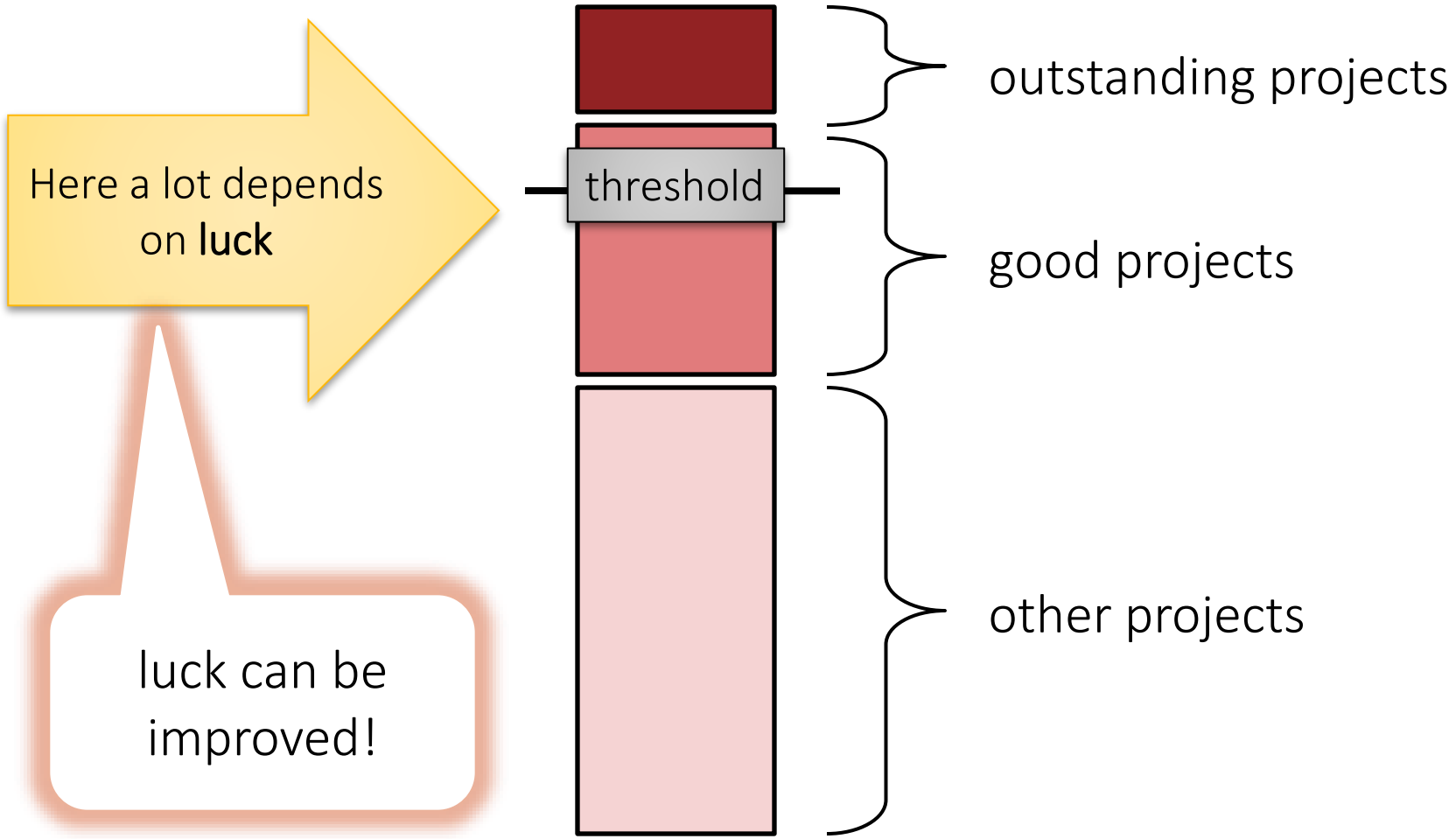
02 Use eDRS to elucidate the complexity of mRNA lifetime regulation *in vivo*

03 Analyze stability of synthetic mRNA to better design mRNA therapeutics

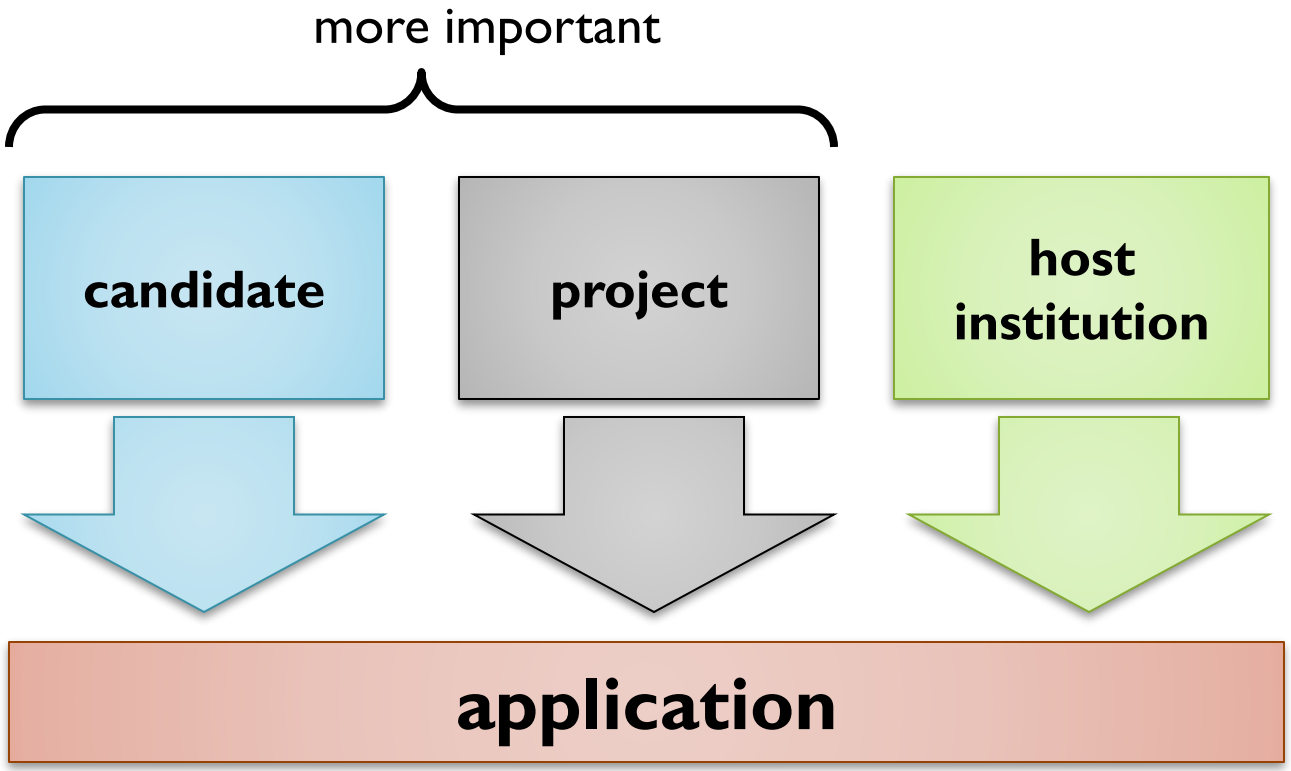
Translation:
rational design of the next-generation mRNA therapeutics

Tutoral

Typical situation in grant competitions (simplified)



Typical scheme



Questions:

1. What to choose the topic?
2. How to present it?

Questions

- How to choose the topic?
- How to present:
  - your CV?
  - your project?

Before you begin

Start early in order to have enough time for writing, polishing and edition

Main question

Does your project match the call?

Example

ERC grants aim to support "Frontier Research", in other words the pursuit of questions at or beyond the frontiers of knowledge. [...] In particular, [...] pioneering proposals addressing new and emerging fields of research or proposals introducing unconventional, innovative approaches and scientific inventions are encouraged.

Hence:

an application of a type:

"In our last paper we have shown that protein X has particular function in HeLa cells

We now plan to analyze its role in other cell types

may be rejected regardless of the other merits.

Before you begin

Ask your mentors/friends to show there previous grants which received funding.

(Optimally form the agency you apply)

It is crucial especially for the ERC projects!

Also:

Avoid risky and extremely ambitious projects unless you have absolutely outstanding CV

The reviewer will write:

> “the project is too ambitious”

Advices

- How risky should be the project? It depend on the granting body.
- Go into small niche or into competitive field? Again, it depend on the granting body. For NCN niche may be enough but not for ERC/EMBO

- The project related to the very small field may be rejected at the first step but often gets good referees reports form the experts in this small field.

Before you begin

- Discuss your project with senior collogues/mentors.
- Try to be innovative.
- Avoid typical approaches in a main-stream research
- Choose proper LS panel

Basic strategy

Look on your application “through the eyes of the reviewer”

Question:

What are his criteria?

The reviewer is also a human being!

One should assume that he is competent and responsible.

However it can happen that he:

- doesn’t have time,
- is irritable,
- doesn’t know the topic in every detail.

Main principle

Help the reviewer!

- Do not assume that he will guess what you had in mind!

A non-expert should also understand some part of the application.

(at least the beginning of it)

Psychological effect: once he stops understanding he will at least get a positive impression about your application.

advice

put comments like: *“more information on this topic can be found in [...]”*

On the other hand:

An expert should get an impression that you are on top of the field.

You need to show that you know the most recent results.

Your application cannot be too general.

Advices

- The project should be logical, and the scientific question should be immediately visible.
- Have a clear structure and plan. Describe the tasks, dependencies….

Advices

- Do not ignore any mandatory part of your application. (otherwise he will have to give you zero points for this)
- The project should be logical and the scientific question should be immediately visible.

Advices

- Cite recent papers published in the prestigious journals – make an impression that your field is important

- Put summaries after every part of the proposal

Advices

- Your proposal should have preliminary data unless it is a direct continuation of your previous fruitful projects
- You should estimate the risk and propose alternative approaches if the main one will fail (example – making mutant with CRISPR and if it fail use siRNA)

Make the work of reviewer easier

Use many references like:

„*As described in Section **n**, …..*

Don’t assume that the reviewer will read all your application at once.

Abstract

Do not write it in the last moment.

This part of your application will be read by the largest number of people

Use it also for marketing!

Thank you!