BRNO UNIVERSITY OF TECHNOLOGY
FACULTY OF ELECTRICAL ENGINEERING AND COMMUNICATION

Your "career" in grants - an introduction to research funding

TB²PC Series

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About TB²PC Series

- TB²PC = To Better Become Part of our Community
- To understand and get aware about the rules and opportunities in
  - R&D
  - Mobility
  - Projects
  - Carrier Growth, etc.

R&D with international impact is the aim

- Ability to work independently (without supervision)
- Ability to lead a team of people
- Remarkable publication track
- Main author of publications in recognized journals
- International internships and collaboration

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Your "career" in grants - an introduction to research funding.

Aim of the lecture: *to learn about research grant funding and how it fits into your career.*

Content

- What are grants for?
- How to write grant proposals? (general tips)
- How to succeed and get them?
- Your grant „career“
  - Examples of ESR grants
  - The national level
  - **Horizon Europe** as an example of international collaborative grant
  - **ERC (European Research Council)** – the *„holy grail“* of EU research funding

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WHAT ARE GRANTS FOR?

How to switch into „grant“ mode

What are grants for?

The purpose of research grants:

MONEY!

and anything else?

What are grants for?

Why are grants used to distribute money in research?

- It is an **organized, systematic way**
- Uses an aspect of **competition**
- Suports **policies**, **strategies**
- Can be used for **one-time purpose** (e.g. Covid)
- Encourages **technological advancements** and breakthrough **solutions**
- Can be used as a **stimulation** (e.g. Economy)

Loan vs Grant ?

What are grants for?

How to think abou grants:

I have phantastic idea – give me your money!!

vs

They want something, I can convince them I have it!

vs

I just need money to survive…

vs

I was told to write a grant proposal…

What are grants for?

The „shopkeeper approach“

Someone thinks we should keep our legs warm…

The „trousers idea“

But what type, material, design etc?

What are grants for?

The „moon landing approach“

You have a dream… and some preliminary data supporting it

Maybe you can convince someone to fund your dream?

Specific funding – beyond the state of the art, high risk…

What are grants for?

Conclusions

Make sure you are aware of the grant funding nature (goals, rules etc.)

Grant proposal oriented thinking vs scientific article thinking

Make sure you „switch“ your thinking accordingly

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HOW TO WRITE GRANT PROPOSALS?

How to write grant proposals?

- They come in a variety of shapes and sizes:
  - From small **individual awards** or **fellowships** to **huge projects** worth hundreds of millions of CZK,
  - With a **single applicant** to international **consortia** with dozens of partners,
  - Granted by small **foundations**, **government** bodies or **multinational entities**,
  - With **wide topics** or specific support for research into a **particular problem**.
- Two approaches how to search for grant opportunities:
  - **Long-term research objective** – waiting and searching for a suitable grant call
  - **Current grant call** – trying to develop a matching project for most of the calls

How to write grant proposals?

"A grant application is a formalized way to distribute funds for a specific purpose under predetermined conditions."

grant application IS NOT scientific article

- **scientific article** – presentation of an individually chosen topic

VS

- **grant application** – "*selling*" the solution to a "*buyer*" who has a more or less clear idea of what he wants to pay for

How to write grant proposals?

Some of the following tips are from: "The Art of Grantsmanship" (Jacob Kraicer)
https://www.hfsp.org/sites/default/files/webfm/Communications/The%20Art%20of%20Grantsmanship.pdf

- **READ the call instructions carefully!!**
- Successful applications must be a "**joy to read**" and must differentiate themselves from the ever-increasing competition.
- Remember that **evaluators** carry out evaluations as a **task beyond their day-to-day activities**. They can be overwhelmed with applications, often conducting evaluations under **less than ideal conditions** (evenings, weekends, holidays, telco meetings…)

In your proposal, answer the question: ***"Why this now?„***

How to write grant proposals?

- Avoid **abbreviations, acronyms and jargon** (which a non-expert may not understand). If you use acronyms, **define** them or create a list of them when you first use them.
- In most cases, assume that you are writing for a reviewer in a **slightly related** field rather than an expert in your field.
- In consortium projects, describe **why** the **partners** are in the project, the **synergies** and **benefits** involved
- Don't rely on computer **spell checker**
- **Using AI** – carefully, some proposals want you to specify how

How to write grant proposals?

The grant application form generally includes:

- **Project name** - is important, determines the **first impression**, and can be used together with the abstract to direct the application to the appropriate **evaluator**.
  - It should be descriptive, specific and appropriate and should reflect the importance of the proposal. It should not, however, be so specific as to require changes in each subsequent submission. One way to achieve this is to have a two-part title; the first general and the second more specific (e.g. *'Control of growth hormone secretion: mechanism of action of somatostatin*'). The sentence after the colon can then change in subsequent renewals, while the part before the colon remains unchanged.

How to write grant proposals?

- **Introduction/Abstract**
  - very important part of the application, write it as the **last part**.
  - creates the first **impression**.
  - serves to **direct** the application to a specific **evaluator**.
  - must be **understandable** to both experts in the field and scientists in general.
  - serves as a concise and accurate project proposal, even if it **is separated from the application**, it must stand on its own.
- **Keywords**

How to write grant proposals?

- **The body of the application** - usually (not always) contains the following sections:
  - **Hypothesis**
  - **General objective**
  - **Specific objectives**
  - **Research background, relevance, current state of knowledge -** *what is known, what is not known, what will I find out*
  - **Description of the proposed solution (research...)**
    - What exists, what has been done (published)
    - What will be done, why?
    - Preliminary data/studies
    - Research design and methods

Write **concisely**; if there is nothing more to add, stop!

How to write grant proposals?

- **The body of the application**
  - The project in the application should be **targeted, original, novel, innovative** and, of course, **feasible**. Try to strike a balance in the proposal between something "**sure**" - proven - and something new, **innovative** and/or **risky** ("beyond the state of the art"),
  - It is often useful to use **diagrams** and **pictures** (a picture is worth a thousand words). Keep in mind, however, that evaluators may not print in colour.
  - The text should be a **pleasure to read**. You want reviewers to become your **advocates**, not your **adversaries**,
  - State clearly what is **new** and what is merely confirmatory,
  - Clearly state how the proposal **relates to the mission, goals, and priorities** of the grant provider.

How to write grant proposals?

- **The body of the application**
  - **Risks** - do not exaggerate, do not hide, describe measures and solutions in case they occur
  - **Description of project management** - make sure that you can handle the proposed work organizationally, technically, scientifically, financially... Often in the form of **Work packages**, schedules, Gantt charts...
- **Conclusions**

How to write grant proposals?

- **Budget** - *often evaluated against promised results*
  - Check whether the provider considers the items to be an **eligible cost**
  - The budget is usually considered last, after the decision on the merits of the proposal and the allocation of points.
  - Therefore, make sure that the budget is well **documented**, **realistic**, **reasonable** and **justified**.
  - Do not artificially **inflate** or **underestimate** the budget unnecessarily. Choose a **level of detail** that allows the importance of the expenditures to be assessed
- **Attachments** - various documents – some of them may take time to obtain!

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HOW TO SUCCEED AND GET THEM?

How to succeed and get them?

DO NOT MAKE MISTAKES!!!!

- **Unrealistic goals** with respect to the duration of the grant project (e.g., promising a patent in 1-2 years (if not already done... :))
- Incorrect and unrealistic **time plan**.
- Lack of results of **previous** research (pilot studies, etc.)
- **Low** FTE allocation (excluding supervisors)
- **Unrealistic** budget
- **Fragmented** application - evaluator can tell it's a "hodgepodge" from partners/colleagues
- Overly **cautious proposal/repetition** of research done many times

How to succeed and get them?

DO NOT MAKE MISTAKES!!!!

- The proposal **does not address** the problem described by the provider
- Missing **citations**, **sources** not cited (*"Stealing from one source is plagiarism, while stealing from many is research„)*
- **Work** plan is not detailed/structured badly/not enough.
- **Governing structure and processes** are not set up properly.
- **Outputs** (deliverables) do not fully reflect the final results of the research.

How to succeed and get them?

What the evaluators focus on in the proposal:

- the extent to which the **topic description** is taken into account
- the clarity and **relevance** of the **objectives**
- the **credibility** of the **procedure/method**
- the **thoroughness** of the **concept**
- the **quality** of the proposed **measures**

How to succeed and get them?

What evaluators can write (and you do NOT want to read):

- *objectives of the proposal are set out in too broad and generic terms without sufficient details*
- *objectives are defined only as activities, not as attainable goals / planned activities are research oriented and not sufficiently aligned with the call objectives*
- *proposed approach and scientific strategy is not sufficiently developed / is too broad and weakens project credibility / lacks clear scientific focus*
- *expected impact in terms of scientific and technological advances is not convincingly presented*
- *no clear details on how the research collaboration will be fostered beyond the lifetime of the project*

How to succeed and get them?

- *dissemination activities and exploitation of results are described in general terms / without enough detail / not adequately addressed / mostly targeting national level / activities towards regional stakeholders lack specificity*
- *data management is not adequately addressed / lack sufficient details*
- *milestones are insufficient in number and inappropriate in terms of timing / not clear nor concrete. It is impossible to measure progress towards deliverables*
- *deliverables are generic and some are not measurable / too many deliverables are planned for the very last day of the project*
- *allocation of tasks to partners is not appropriate (project coordinator leads all tasks, work packages and the executive committee)*
- *very general descriptions of the management structures and procedures and lack of clarity for conflict solving, reporting etc.*

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YOUR GRANT „CAREER“

CAN YOU HAVE ONE?

YES!

Content

- Your grant „career“
  - Examples of ESR grants
  - The national level
  - **Horizon Europe** as an example of international collaborative grant
  - **ERC (European Research Council)** – the holy grail of EU research funding

Your grant „career“

- Start small
- At the beginning, be part of a team
- Take every opportunity to practice grant writing skills
- It is normal to fail at be beginning
- Start with individual grants, prices etc
- If working in a team, take interest also in other parts of the proposal not assigned to you

Your grant „career“

Examples of „small“ starting grants:

Sophia foundation – *small sum support for students to go abroad/do research (5-15k CZK)*

Fulbright stipends - *various types*

Experientia foundation - *for Ph.D. holders in chemistry, under age of 35. Your own original project in chemistry for 1 year at chosen institution abroad.*

Eppendorf Award for Young European Investigators - *acknowledges outstanding contributions to biomedical research in Europe based on methods of molecular biology, including novel analytical concepts. Price of **20k EUR,** + comprehensive coverage of his/her work by Nature in print and online including a podcast.*

Swedish research council - **Starting grant within natural and engineering sciences**

To give junior researchers the opportunity to establish themselves as independent researchers in Sweden. For individual researcher with Ph.D more than 2 years ago and up to 7 years ago. Duration 4 years.

Your grant „career“

The national level grants - the „usual suspects“:

- **TAČR** (SIGMA, Théta Trend…)
- **GAČR** (Standard, International LA grants…)
- Operational programmes (**OP TAK**…)
- MPO grants (**TWIST**)
- MVČR grants (security research- **IMPAKT, OP SEC, SecPro, SECTECH**)
- Others….

Require some track record and team, the applicant is an organisation, allows/requires partnership (sometimes with industry), budget in milions of CZK, sometimes require co-funding, etc…

Your grant „career“

Horizon Europe - as an example of international collaborative grant

- **Main EU source for research**, structured into *Work programmes*, current period 2025, drafts versions for 2026-2027
- Various types of projects, from **individual** to **consortia** with budgets in the tens of millions of euros.
- Project role: **coordinator vs. project partner**/associated partner
- Structure of applications: *Excellence; Impact; Implementation*
- Relatively **simple budget** in the application
- Divided into **work packages/tasks**
- Fully **electronic** application submission
- Requires **partnership** across EU and beyond (3-30+ partners per project)

Your grant „career“

ERC (European Research Council) – the holy grail of EU research funding

Available in 3 stages +2 specific:

- **ERC Starting grant**
- **ERC Consolidator grant**
- **ERC Advanced grant**
- **(Proof of Concept, Synergy grant)**

Your grant „career“

- Do I want to set a **new course for my research**?
- Do I have **new/radical ideas**?
- Am I prepared to **fail** and **try again**?
- Am I ready to start **NOW**?
- How about my **track record**? (h-index – used, not mandatory - *„relevant bibliometric indicators“)*

Your grant „career“

ERC Starting grant

- **Any field** of research
- Research conducted at **public or private research organisation** (can be switched) in **EU Member state or associated country**
- Project carried out by **individual researcher** +others employed
- **1,5 mil EUR for 5 years**, plus +1 mil EUR possible
- **excellent scientific results** and an **excellent research idea** (state-of-the-art), be original. (Not „…I worked for years on X and so…“
- create **extraordinary conditions** for your work and build your **own team**.

Your grant „career“

ERC Starting grant

- Have some **track record in your field** (H-index etc is not a main criteria)
- Start thinking about ERC **years in advance**
- Do not be shy and **try it**!! It can help you to focus your future in science.
- Be **prepared not to succeed at first try** (but maybe you will…)

The end

Thank you for your attention!

Do not hesitate to contact the the Grant Support Department at FEKT VUT

More from TB²PC Series

- Orientation for PhD Students
- Evaluation of R&D Results
- Publishing of R&D Results and VaVIS
- Knowledge transfer and legal aspects (so far just in Czech)

- …more coming up
  - Career Development (2026)

Good luck in your R&D efforts!