

Technical English, Lecture 12: Research funding

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Research funding

In most countries, the government funds the majority of basic research.

- In the USA, the largest funding agencies are the National Science Foundation (NSF), the National Institute of Health (NIH), and the Defense Agency (DARPA).
- In Europe, the largest granting program in the European Union is the Framework Program (currently FP7).
- The same applies in Japan, Canada, China, India, . . .

The private industry funds around 40% of the total (basic and applied) published research results.

A well established university has a good balance of three income sources:

1. fees from students to offset the daily running costs,
2. a large endowment fund whose dividend provides a stable income over the years,
3. and a flow of continuous donations to fill the gaps between the income from the endowment's dividend and the demand of the research program.

If possible, a good part of the donations should go to increase the size of the endowment.

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No gold from the skies!

The sky does not rain gold nor silver! You must look for the sources whether they are governmental, international, or from the local industry. The plan is simple

1. Define your project.
2. Identify the funding sources.
3. Understand and follow the guidelines of *the call for proposals*.
4. Arrange with your collaborators.
5. Submit the proposal together with your CV, application form, and any supporting documents.

Will I really get the money?

- Most probably, you will not get the *grant* in your first attempt!
- You will learn over time how to secure large funds.
- Collaboration with experienced senior researchers helps.
- The “supporting documents” include a summary of your successfully completed work for previous research grants.
- Your ability to secure funds is a factor in your future promotions.

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Marketing

- All the departments and schools within a university should work harmoniously and tell the same “story” to reinforce the brand name of the university.
- There must be a balance between the actual physical brochures and the virtual electronic web-based material.
- The investments in such branding must be for the long term. It does not pay-off immediately.
- The participation of each individual in the promotion of the “product” with its unique price and place in a persistent and patient manner to all people is the key.

participation, promotion, product, price, place, persistent, patient, and people.

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Anything else?

The story does not end when you get the funds. Money can bring more money!

- Carry out your research and manage the funds correctly.
- Submit the required regular reports.
- Publish your research.
- Keep an eye on follow-up calls.

⇒ Learn how to market your ‘products’!

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Define your project

Remember that your goal must clearly indicate *who* is doing *what exactly* (in a clearly measurable way) *when* and under *which conditions*.

- Do you have a clear, concise, and testable hypothesis?
- Can you design and conduct specific experiments to test it?

Draft a general outline of your proposal and check it against the recent research work in your area.

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What are the funding sources?

- The Internet is your friend.
- Network with your colleagues.
- Think beyond your box. Interdisciplinary work can be funded by multiple sources.
- Study previous proposals (both successful and unsuccessful).
- Are you willing to align your purposes to those of the granting agencies?

Can we really get funding from outside Egypt? Why?

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Elements of a Good Research Proposal

1. Statement of the problem.
2. Literature review.
3. Conceptual framework (preliminary study).
4. Hypotheses or research questions.
5. Methodology.
6. Task structure (scope of work).
7. Management plan.
8. Staff and institutional qualifications.
9. *Budget.*

Write correctly!

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How is it evaluated?

There are three main issues.

Scientific excellence: where they ask

- does the research confirm an existing hypothesis or does it go beyond the state of the art?
- are the aims logical?
- is the proposed methodology effective?

Implementation: which relates to

- the appropriateness of the management structure,
- the qualifications of the investigators (experience, competence) and the consortium in general (balance, complementarity).
- the allocation and justification of the budget.

Impact: which looks at the results, their dissemination, and their uses.

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Administrative issues

- Get all the necessary authorizations and official signatures.
- Make sure that the documents adhere to the formatting specifications of the granting agency and that they are complete.
- Make sure that the documents arrive on time.

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International resources

In Europe, FP7 runs from 2007 to 2013. The total budget is 53 272 million Euros.

- Egypt signed a scientific agreement in 2006 with the EU that enables us to apply to more programs under FP7.
- See (<http://cordis.europa.eu/fp7/>) for FP7 in general and (<http://cordis.europa.eu/fp7/ict/>) for ICT.

Check also (<http://www.rdi-eg.net/>) and (<http://www.astf.net/>).