

PART 4:

Making a successful grant proposal

Granting bodies

- **Poland:**
 - National Science Centre (NCN) - www.ncn.gov.pl
 - National Centre for Research and Development (NCBiR) - www.ncbir.gov.pl
 - Foundation for Polish Science (FNP) - www.fnp.org.pl
- **Europe:**
 - EC funded research: Framework Programmes, etc. - cordis.europa.eu; ec.europa.eu/research
 - European Science Foundation - www.esf.org
- **US**
 - National Science Foundation - www.nsf.gov
 - National Institute of Health - www.nih.gov
- etc...

National Science Centre (NCN)

www.ncn.gov.pl

- **Basic research**

- “*original experimental or theoretical research work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without any direct practical application or use*”
- research projects outside the scope of research funded by the National Centre for Research and Development

- **Funding for:**

- **doctoral fellowships and post-doctoral internships**
- experienced researchers - pioneering research important for the development of science

National Science Centre (NCN)

- Current calls for proposals (announced 2-4 times a year):
 - PRELUDIUM: *pre-doctoral grants*
 - ETIUDA: *for PhD students (6-12 months before defense)*
 - SONATA: *PhD holders grants (PhD < 5 years)*
 - SONATA BIS: *PhD holders grants (PhD < 10 years)*
 - OPUS: *general grants*
 - MAESTRO: *advanced researchers grants*
 - HARMONIA: *non co-financed international grants*
 - other...

National Centre for Research and Development (NCBiR) - www.ncbir.gov.pl

- Mission and tasks:
 - “*Support of the Polish research units and enterprises in developing their abilities to create and use solutions based on scientific research results in order to encourage economy development and to the benefit of society*”
 - **applied research programs**
 - strategic research and development programs, which lead directly to the development of innovativeness
 - support of commercialization and other forms of transfer of scientific research results
 - performance of national security and defense projects

National Centre for Research and Development

- **Strategic research and development programmes:**
 - Advanced Technologies for Energy Generation;
 - Interdisciplinary System for Interactive Scientific and Scientific Technical Information;
- **Strategic research projects:**
 - Integrated System for Reducing Energy Consumption in the Maintenance of Buildings,
 - Work Safety Optimization in Mines;
 - Safe Nuclear Power Engineering Development Technologies.

Horizon 2020 Research Programme of the European Union

Horizon 2020
https://ec.europa.eu

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What is Horizon 2020?

Research & Innovation Performance

2016

Quality of Research System

Scientific publications within the top 10% most cited worldwide as % of total scientific publications (2017)

Research and Innovation performance and Horizon 2020 country participation

The European Semester, the Commission's yearly cycle of economic policy coordination, supports Member States' structural reforms in different policy areas to promote jobs, growth and investment.

Project Stories

Find Your area

Horizon 2020 Programme

Multimedia and publications

How to Get funding?

Latest news and events

EIC Horizon Prize, Blockchain for Social Good - Finalists' Day

Date: 19/12/2019

Finalists' day of the Blockchain for Social Good EIC Prize will be held on 10 February, 2020, in the Atrium of JRC, Brussels. The interactive event features discussions among the 24 finalists as well as an engaged audience, plus poster presentations of the different applications. [Read more](#)

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What is Horizon 2020?

Three priorities



What is Horizon 2020?

- The biggest EU Research and Innovation programme ever with nearly €80 billion of funding (2014 to 2020)
- A means to drive economic growth and create jobs
- To ensure Europe produces world-class science, removes barriers to innovation
- **Open to everyone**
- **Three priorities**
 - 1: Excellent science
 - 2: Industrial leadership
 - 3: Societal challenges

Horizon 2020:

Priority 1: Excellent science

- World class science is the foundation of tomorrow's technologies, jobs and wellbeing
- Europe needs to develop, attract and retain research talent
- Researchers need access to the best infrastructures

Horizon 2020

Priority 1: Excellent science

Proposed funding (€ million, 2014-2020)*

<i>European Research Council (ERC)</i> Frontier research by the best individual teams	13 095
<i>Future and Emerging Technologies</i> Collaborative research to open new fields of innovation	2 696
<i>Marie Skłodowska-Curie actions (MSCA)</i> Opportunities for training and career development	6 162
<i>Research infrastructures (including e-infrastructure)</i> Ensuring access to world-class facilities	2 488

* All funding figures in this presentation are subject to the pending Multiannual Financial Framework Regulation by the EP and the Council

Horizon 2020

Priority 3: Societal challenges

- Concerns of citizens and society/EU policy objectives (climate, environment, energy, transport, etc) cannot be achieved without innovation
- Breakthrough solutions come from multi-disciplinary collaborations, including social sciences & humanities
- Promising solutions need to be tested, demonstrated and scaled up

Horizon 2020

Priority 3: Societal challenges

Proposed funding (€ million, 2014-2020)

Health, demographic change and wellbeing	7 472
Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the Bioeconomy	3 851
Secure, clean and efficient energy *	5 931
Smart, green and integrated transport	6 339
Climate action, environment, resource efficiency and raw materials	3 081
Inclusive, innovative and reflective societies	1 310
Secure societies	1 695
<i>Science with and for society</i>	462
<i>Spreading excellence and widening participation</i>	816

* Additional funding for nuclear safety and security from the Euratom Treaty activities (2014-2018)

Structure of a grant proposal

- **Title:** briefly indicating the aim(s) of the study
- **Introduction:** similar to introduction in a paper – presenting your planned research as the one filling important gaps in knowledge
- **Aims:** clearly defined goal(s), which can be easily evaluated by the end of the project (formal hypotheses are sometimes the best option)
- **Expected results:** should be easy to evaluate at the end whether the project was successful
- **Budget:** the more clear the better
- **Investigators' CVs**
- **Presentation of the research institution(s)**

Making a successful grant proposal

- **Formulating research question(s)**

- *“The main aim of the project is the quantitative description of leaf litter decomposition and nutrient balance in litter and soil of tropical montane cloud forests in the Venezuelan Coast Range, in cooperation with Venezuelan researchers. The major hypothesis that will be tested in the project is the assumption that the most important factor limiting organic matter decomposition rate in tropical montane cloud forests is the availability of nutrients. This would be in contrast to patterns observed in most other biomes, where actual evapotranspiration is the most important factor determining the decomposition rate.”*

Making a successful grant proposal

- **Justifying the proposed study**

- *“Tropical montane cloud forests belong to the least studied ecosystems on Earth. At the same time, they represent the highest known biodiversities on the one hand, and are extremely endangered by various human activities on the other. They are also immensely important because of specific ecosystem services they provide; for example, they are the major source of drinking water for millions of people inhabiting foothills – hence the biogeochemical studies have very special importance there.”*

Making a successful grant proposal

- **Proving that success is highly probable**
 - “*Researchers from the partner institution have been working in the Coast Range for years, which guarantees not only that **the studies will be properly designed but also doable...***”
 - “*The question about nutrients as limiting factors for organic matter decomposition was not formally well studied at all, and is virtually unknown for tropical (montane) forests. Hence, **we are convinced that our data will be published in the best ecological journals.***”
 - **Researchers’ CVs**, publication lists, and outcome of completed projects

Budgeting grant proposal

- **Direct costs:**

- all your actual planned spendings, e.g.:

- employment costs (labour: assistants, technicians, students)
- travel (field work, conferences, staff exchange)
- equipment (*not all granting programmes allow for that*)
- consumables (chemicals, glassware, stationery, etc.)

- **Indirect costs:**

- overheads imposed by the institution (*vary widely, usually ca. 20-50% of direct costs*)
- VAT: this can be a problem...

Budgeting grant proposal

- **All items need to be specified with their costs**
- **Employment costs:**
 - based on actual cost of a work unit (e.g., hour or month) for specific position
 - including ALL derived costs: taxes, insurances, employer's costs, etc. (**not just gross salary!**)
 - total cost calculated based on actual time devoted to the project ('**person-hours**'; '**person-months**')
 - remember that people do not work 24 hours a day (e.g., if a person works also in other projects)

Examples: staff responsibilities

Distribution of responsibilities of the project personnel: black – task leader; dark grey – major responsibilities; light grey – participation.

Team member	Project coordination	Task 1: Species biology & ecology	Task 2: Ecotoxicology	Task 3: Landscape	Task 4: Modelling	Task 5: Reporting
Project leader	black	light grey	dark grey	light grey	light grey	black
Co-investigator 1	light grey	white	white	dark grey	black	dark grey
Co-investigator 2	dark grey	black	black	light grey	light grey	dark grey
Post-doc	white	white	white	black	dark grey	dark grey
Ph.D. student	white	dark grey	dark grey	light grey	light grey	dark grey
Technician	white	light grey	light grey	light grey	white	light grey
Chemist	white	white	dark grey	white	white	light grey

Examples: harmonogram (Gantt chart)

Time schedule for major activities within the project

	2016	2017				2018				2019	
Purchasing equipment	■	■									
Literature search	■	■	■	■	■	■	■	■			
Collecting landscape data		■	■	■	■						
Preparing GIS layers			■	■	■	■					
<i>B. lampros</i> model				■	■	■	■				
Field studies				■	■	■	■	■	■		
Ecotox experiments				■	■	■	■	■			
Toxicokinetics					■	■	■	■	■		
<i>O. rufa</i> model							■	■	■	■	■
Conference presentations						■		■			■
Publications					■	■	■	■	■	■	■
Report for EFSA/EC											■

Examples: budget (details)

EQUIPMENT	PRICE	PIECES	COST
Stomacher homogenizer (chromatography)	15,000	1	15,000
Thermomixer Eppendorf with sample tubes stand	15,000	1	15,000
Vortex mixer	1,300	1	1,300
Microwave glassware bath	800	1	800
High-power computer for ALMaSS modelling and GIS	15,000	1	15,000
Laptop computers for the post-doc and PhD student	3,000	2	6,000
Potter spray tower (high-precision pesticide dosing)	30,000	1	30,000
Equipment TOTAL			83,100

Examples: budget (H2020)

Participant name:	UJAG					Country code:	PL
	WP1	WP2	WP3	WP4	WP5	WP6	
Number of effective Person/Months	4.0	4.0	1.0	1.0	2.0	55.0	
	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL	
(A) DIRECT PERSONNEL COSTS							
Personnel costs	24,000	46,500	46,500	46,500	26,500	190,000	
Total in-kind contributions to personnel costs (from categories E1 and E2)	0	0	0	0	0	0	
Total direct personnel costs	24,000	46,500	46,500	46,500	26,500	190,000	
(B) OTHER DIRECT COSTS							
Travel costs	2,500	4,000	3,000	2,500	2,500	14,500	
Depreciation costs of equipment, infrastructure or other assets by the actual use in the project	0	0	0	0	0	0	
Consumables and supplies	2,000	7,000	6,000	4,000	2,000	21,000	
Dissemination costs	0	0	3,000	4,000	3,500	10,500	
Costs related to IPR and protecting of results						0	
Certificate on the financial statement	0	0	0	0	0	0	
Contracts to purchase goods, works or services necessary to implement project's tasks	0	5,000	5,000	2,000	0	12,000	
Other direct costs	0	0	0	0	0	0	
Total in-kind contributions to other direct costs (from categories E1 and E2)	0	0	0	0	0	0	
Total other direct costs	4,500	16,000	17,000	12,500	8,000	58,000	
C DIRECT COSTS OF SUBCONTRACTING							
Subcontracting of project tasks	0	0	0	0	0	0	
TOTAL ELIGIBLE DIRECT COSTS	28,500	62,500	63,500	59,000	34,500	248,000	
(F) INDIRECT COSTS 25%	7,125	15,625	15,875	14,750	8,625	62,000	
(H) TOTAL ESTIMATED ELIGIBLE COSTS	35,625	78,125	79,375	73,750	43,125	310,000	
(J) MAXIMUM GRANT	35,625	78,125	79,375	73,750	43,125	310,000	
(K) REQUESTED GRANT	35,625	78,125	79,375	73,750	43,125	310,000	

NCN Preludium grants

- details of the principal investigator, including information on his/her academic and research career and research experience as well as 1-10 papers published in the proposal submission year and over the period of 10 years prior to the proposal submission year;
- ~~details of the mentor, including information on his/her academic and research career and research experience as well as 1-10 papers published over the period of 10 years prior to the proposal submission year;~~
- basic information on the proposal and host institution for the project (also in Polish);
- work plan (also in Polish);
- information on the scope of work carried out by the co-investigators in the project;
- summary of the project;
- ~~abstract for the general public (also in Polish);~~
- ~~short project description with bibliography (no more than 5 pages, A4);~~
- full project description with bibliography (no more than 15 pages, A4);
- information on ethical issues in the research planned;
- data management plan (DMP) concerning data generated or used in the course of a research project;
- project budget.

Homework

- Read the supplementary materials
- Look through the websites of the granting bodies
- **Prepare a short grant proposal**
 - max 10 pages including budget and CV
 - follow the '*Preludium*' grant layout (**as on slide #102**)
- **Review assigned manuscript**
- **Submit the proposal and the review to:**
ryszard.laskowski@uj.edu.pl
- File names: "Grant_yourname_doc", "Review_yourname_doc"

Homework grant proposal – evaluation

<i>Grant proposal evaluation criteria</i>	<i>Points (max)</i>
<i>Title:</i> adequacy; information load	1
<i>Introduction:</i> quality of the review of contemporary knowledge on the topic; clarity of identification of gaps in knowledge	4
<i>Aims:</i> clarity of objectives of the study; clarity of hypotheses; convincingness in presenting the necessity to undertake the study	4
<i>Expected outcome of the project:</i> quality of expected outcome; ability to show that the outcome is achievable	3
<i>Materials and methods:</i> completeness of the description of materials and methods used; clarity of the description	3
<i>Budget:</i> clarity of the budget; completeness; convincingness in justification of the budget requested	4
<i>Principal investigator CV:</i> completeness	1
TOTAL:	20

Thank you
and good luck in science!