

RESEARCH SKILLS 6

FROM PUBLISHING TO FUNDING

HOW RESEARCH IDEAS
BECOME FUNDED PROJECTS

ACQUIRING FUNDS FOR RESEARCH
AND PREPARATION OF APPLICATIONS
FOR RESEARCH FUNDING



ŁUKASZ SADOWSKI



lukasz.sadowski@pwr.edu.pl



Wrocław University of Science and Technology
Faculty of Civil Engineering
Department of Materials Engineering
and Construction Processes





RESEARCH SKILLS 5

QUICK CHECK PUBLICATION KNOWLEDGE

HOW MUCH DO YOU REMEMBER FROM OUR LAST CLASS?



1 WHAT IS THE PRIMARY PURPOSE OF A SCIENTIFIC PAPER?

- A. To impress reviewers with complex language
- B. To present original research and advance knowledge
- C. To get as many citations as possible
- D. To describe all experiments in detail



2 WHICH ELEMENT IS MOST IMPORTANT IN THE TITLE OF YOUR PAPER?

- A. It should be short and easy to remember
- B. It should include every keyword possible
- C. It should accurately reflect the content and attract readers
- D. It should be similar to titles in top journals



3 WHAT SHOULD BE THE MAIN FOCUS OF THE ABSTRACT?

- A. Background information and citations
- B. The key problem, methods, results and conclusions
- C. A detailed description of methods
- D. Future work and acknowledgements



4 WHICH SECTION OF THE PAPER TELLS THE READER "SO WHAT"?

- A. Introduction
- B. Results
- C. Discussion
- D. Methods



5 WHAT MAKES YOUR PAPER MORE LIKELY TO BE CITED?

- A. Using many references
- B. Solving an important problem well
- C. Publishing in any journal
- D. Making it as long as possible



6 WHAT IS A COMMON REASON FOR REJECTION?

- A. The topic is too interesting
- B. Weak novelty or unclear contribution
- C. Too many figures
- D. The paper is well written



7 WHICH STATEMENT ABOUT FIGURES AND TABLES IS TRUE?

- A. They should repeat the text
- B. They should be clear, necessary and self-explanatory
- C. The more the better
- D. They are not important in the submission



8 BEFORE SUBMITTING, WHAT IS ESSENTIAL?

- A. Check the journal's scope and instructions
- B. Ask a friend to read only the conclusion
- C. Format the references manually
- D. Submit quickly to beat others

Good Science
**WELL WRITTEN
GOES FURTHER**

GOOD PAPER CHECKLIST:

- ORIGINALITY
- RIGOROUS METHODS
- CLEAR RESULTS
- STRONG DISCUSSION
- IMPACT



ŁUKASZ SADOWSKI
lukasz.sadowski@pwr.edu.pl



WROCLAW UNIVERSITY OF SCIENCE AND TECHNOLOGY
FACULTY OF CIVIL ENGINEERING
DEPARTMENT OF MATERIALS ENGINEERING
AND CONSTRUCTION PROCESSES

**PREPARE. ANALYZE. SHARE.
IMPROVE.**



1 OPENING (5 MIN)

MANY PAPERS ARE PUBLISHABLE.
VERY FEW IDEAS ARE FUNDABLE.

WHAT IS THE DIFFERENCE? →
LET'S DISCUSS.



2 TRANSITION: FROM PUBLICATION TO FUNDING (10 MIN)
TWO PATHS. DIFFERENT DESTINATIONS.

PUBLICATION



RESEARCH
GAP



EXPERIMENT



RESULTS



PAPER

GRANT



RESEARCH
GAP



VISION



METHODOLOGY



IMPACT



FUNDING



A PAPER EXPLAINS
WHAT YOU DISCOVERED.
A GRANT CONVINCES
REVIEWERS WHAT YOU
ARE CAPABLE OF
DISCOVERING NEXT.

HOW TO APPLY FOR A RESEARCH GRANT

STEP BY STEP

TURN YOUR RESEARCH IDEA INTO **IMPACT**

NASA

1 FIND THE RIGHT CALL



- Explore funding opportunities
- Check eligibility and deadlines
- Read the call documents carefully

2 ANALYZE THE RESEARCH GAP



- Define the problem
- Review the state of the art
- Identify the gap your project will address

3 DESIGN YOUR PROJECT



- Define objectives and hypotheses
- Plan methodology and work packages
- Prepare a realistic timeline

4 BUILD YOUR TEAM



- Involve the right experts
- Define roles and responsibilities
- Highlight your team's strengths

5 PREPARE YOUR PROPOSAL



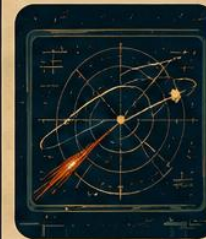
- Follow the structure from the call
- Write clearly and persuasively
- Show impact, innovation and feasibility

6 CHECK AND SUBMIT



- Follow all formatting and page limits
- Check all required documents
- Submit before the deadline

7 EVALUATION PROCESS



- Your proposal is reviewed by experts
- They assess quality, impact and feasibility
- You may be invited for clarification

8 DECISION & NEXT STEPS



- If funded: start your project and deliver results
- If not funded: learn from feedback and try again



SUCCESS TIPS



Focus on impact



Be clear and concise



Follow the rules



Build a strong team



Be persistent



**GREAT IDEAS
NEED BOLD STEPS.**



**LAUNCH YOUR PROJECT.
MAKE AN IMPACT.**



GRANT APPLICATION EVALUATION PROCESS



1



INITIAL ASSESSMENT BY THE EXPERT TEAM

★ THE MOST COMMON REASONS FOR REJECTION:

- insufficient achievements of the project manager
- obvious errors
- obvious lack of feasibility
- low rank of the research center



TEAM OF
EXPERTS REJECT
ABOUT **50%**

2



THE FIRST DECISION OF THE EXPERT TEAM

★ THE FIRST STAGE OF SUBSTANTIVE EVALUATION:

- usually 2-4 reviews by external experts,
currently
- mostly foreign

3



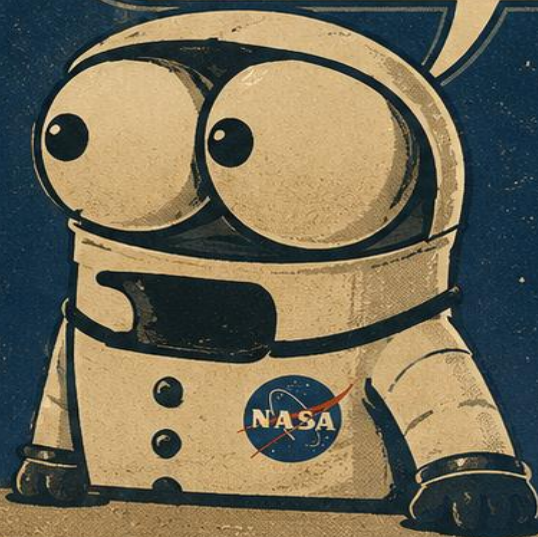
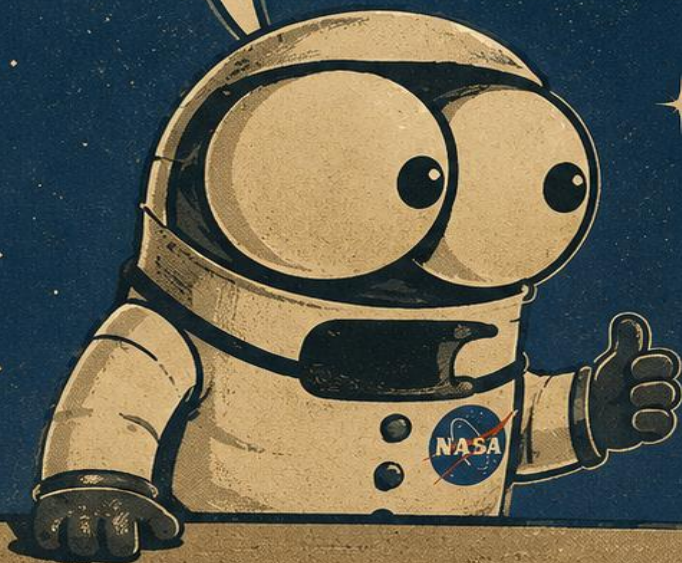
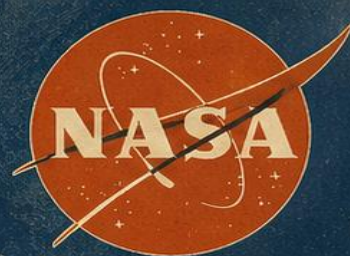
THE FINAL DECISION OF THE EXPERT TEAM

THE TEAM
OF EXPERTS REJECT
ABOUT **50%**



I ASKED
SANTA
FOR A
RESEARCH
GRANT.

YOU STILL
BELIEVE IN
**RESEARCH
GRANTS?**



3 DYNAMIC EXERCISE FROM RESEARCH PROBLEM TO RESEARCH GRANT

TURN YOUR IDEA INTO **IMPACT**.



WORK IN TEAMS

You will be assigned to one of the research problems below.



DEVELOP A GRANT IDEA

Use the tasks below to build your concept.



PITCH & GET FEEDBACK

Prepare a 2-minute pitch. I will give feedback as a reviewer.

CHOOSE ONE RESEARCH PROBLEM

1 SUSTAINABLE INFRASTRUCTURE

How can we design and build infrastructure that is durable, cost-effective and low-carbon in the face of climate change and increasing demands?



YOUR TASKS

- 1 🔍 **RESEARCH GAP** – What is still unknown or unclear?
- 2 📄 **GRANT TITLE** – Create a clear and attractive title.
- 3 🎯 **HYPOTHESIS / OBJECTIVES** – What do you expect to discover?
- 4 🌐 **IMPACT** – Why is it important? Who will benefit?
- 5 ⚠️ **RISKS & CHALLENGES** – What could go wrong and how will you manage it?

2 SMART & RESILIENT CITIES

How can cities use data, technology and human-centered design to improve resilience, reduce emissions and enhance quality of life for all residents?



YOUR TASKS

- 1 🔍 **RESEARCH GAP** – What is still unknown or unclear?
- 2 📄 **GRANT TITLE** – Create a clear and attractive title.
- 3 🎯 **HYPOTHESIS / OBJECTIVES** – What do you expect to discover?
- 4 🌐 **IMPACT** – Why is it important? Who will benefit?
- 5 ⚠️ **RISKS & CHALLENGES** – What could go wrong and how will you manage it?

3 HEALTH & WELL-BEING

How can we develop innovative solutions for prevention, early detection and treatment of diseases to improve health outcomes for society?



YOUR TASKS

- 1 🔍 **RESEARCH GAP** – What is still unknown or unclear?
- 2 📄 **GRANT TITLE** – Create a clear and attractive title.
- 3 🎯 **HYPOTHESIS / OBJECTIVES** – What do you expect to discover?
- 4 🌐 **IMPACT** – Why is it important? Who will benefit?
- 5 ⚠️ **RISKS & CHALLENGES** – What could go wrong and how will you manage it?

PITCH & GET FEEDBACK

2-MINUTE PITCH PER TEAM



I WILL GIVE FEEDBACK AS A REVIEWER

- ✓ Strengths
- ✓ Weaknesses
- ✓ Suggestions



★ PREPARE. ANALYZE. SHARE.
IMPROVE.



6

GRANT **KILLER** MISTAKES

TOP 5 REASONS WHY PROPOSALS FAIL

1

UNCLEAR HYPOTHESIS

If the core idea is fuzzy,
everything else falls apart.



2

TOO AMBITIOUS SCOPE

Trying to solve everything
usually means achieving nothing.



3

NO NOVELTY

If it's not new,
why fund it?



4

WEAK METHODOLOGY

Good ideas need robust methods
to be credible.



5

NO IMPLEMENTATION LOGIC

No clear plan =
high risk for funders.



**DON'T LET THESE
MISTAKES KILL
YOUR PROPOSAL!**



**WHICH ONE IS
THE MOST DANGEROUS?**



DISCUSS!

SHARE YOUR OPINION
AND ARGUMENTS.

6 NICE COMMENTS ON WEAK PARTS OF MY PROPOSALS



I do not see any weaknesses of the proposal – it is perfectly prepared and deals with very important problems.



There are too many research tasks proposed, instead of 13 tasks a lower number of these would have been beneficial.



Overestimated period of research, instead of 5 years project could be realized within 3 years.



Lack of microbiologist in the research team.



The organization of the project is divided in too many tasks, and provided there is no timing diagram.



The project leader does not publish in the top scientific journals. The IF values of the articles rarely exceed 3.5.



The topic (or very similar topics) is being studied by other research groups.



English language should be used thorough the text, and not any other language.



The novelty of the proposal is not clearly identified.



REMEMBER



CONSTRUCTIVE
FEEDBACK
MAKES YOUR
PROPOSAL
STRONGER.

NICE COMMENTS ON WEAK PARTS OF MY PROPOSALS



- Include the following references when studying:
"Experimental studies on **rheological, mechanical** ..."



- "One-step **random-walk process** of nanoparticle ..."



- "Strength optimization of **cementitious composite** ..."



- "Experimental and theoretical studies of **ordinary** ..."



- "Effect of **Silicon Carbide Nano Dispersion** on the ..."



- There is no **international cooperation** expected.



- Too many **acronyms** and references to his/her personal situation.



- Not **measurable impact**.



CLARITY. FOCUS. MEASURABLE IMPACT. MAKE IT EASY FOR REVIEWERS TO SAY **YES**.



NICE COMMENTS ON WEAK PARTS OF MY PROPOSALS



- ✗ No real **structural element testing** is proposed in the project.



- ✗ **Ethical aspects** were not considered.



- ✗ It is not evident that it will be a **game-changer** upon implementation.



- ✗ Therefore, while the **novelty** is good, it is not excellent.



- ✗ It also includes **international collaboration** with well-known experts, which adds extra value.



- ✗ A preliminary **risk assessment** is included.



- ✗ I see no to very **little weaknesses**. However,



REMEMBER



BE SPECIFIC
Vague statements weaken your case.



ADDRESS KEY ASPECTS
Ethics, risks, feasibility. Make it complete.



SHOW REAL VALUE
Prove impact, novelty and relevance.



ANTICIPATE QUESTIONS
Think like a reviewer. Answer in advance.



7 FINAL EXERCISE

60-SECOND PROPOSAL



**YOUR IDEA.
ONE MINUTE.
MAKE IT COUNT!**



YOUR CHALLENGE:
Present your potential grant
in **60 seconds**.



THE RULE:
Clear. Concise. Convincing.
Stay within 60 seconds!

YOUR 60-SECOND STRUCTURE

1

THE PROBLEM

What is the problem
you want to solve?



2

WHY IMPORTANT

Why does it matter?
Who will benefit?



3

THE IDEA

What is your solution
and how will you do it?



4

EXPECTED IMPACT

What results do you
expect and why
will they matter?



AFTER YOUR PITCH



**THE GROUP
ASKS:**

**1 REVIEWER
QUESTION**

Think like a reviewer.
Ask one question
that could help
strengthen the proposal.



BE CLEAR. BE FOCUSED. BE CONVINCING.
YOU HAVE 60 SECONDS. GO!



PRACTICE TODAY.
WIN GRANTS TOMORROW.



TASKS TO BE PERFORMED FOR THE NEXT CLASS



1.

Read the documentation on the **Preludium competition** carefully and prepare a list of questions / issues for discussion related to this competition.



2.

Check **other possibilities** of obtaining funds for research for PhD students, or prepare a list of questions / issues for discussion related to these competitions.



PREPARE. ASK. DISCUSS. IMPROVE.
WRITE. WIN. IMPACT!



Politechnika Wrocławska