



March 27th 2024

To: The members of the academic staff at the Technion

Re: Call for research proposals, 2025

The center for High Speed Flight acts to develop and deepen knowledge in the field of hypersonic flight by investing in research and infrastructure.

The purpose of this call is to receive research proposals that will advance the field in the following disciplines:

1. Navigation, guidance, control and optimization
2. Structure and materials
3. Aerodynamics
4. Propulsion and combustion
5. Thermal control
6. Diagnostics and measurement methods

In addition, to receive proposals for equipment for experimental and measurement initiatives with the potential to be used by several Technion researchers and laboratories in the field.

Grant conditions:

The scope of financing: We do not set a sharp upper threshold. As a representative figure, the average per project grant awarded by the center in 2024 was NIS 550,000 per year.

The duration of the research funded by the center: Up to three years.

Eligible to submit: Faculty members and research fellows of the Technion (50% position and higher). The research grants themselves can also fund subcontractors or researchers from other institutions as long as the main researcher is a faculty member of the Technion.

Security:

Subject to the center's security procedures



Submission of proposals:

Research proposals will be submitted in the English language in the format defined in the appendix to this document. The proposer will also prepare a PowerPoint presentation which he/she will be asked to present to the Management Forum of the Center during the judging process.

Evaluation process:

All research proposals will be re-evaluated each year and will be reviewed relative to the proposals that will be submitted that year. The number of grants and their scope will be determined exclusively by the management forum of the center, taking into account the recommendations of the evaluation committee.

The proposals will be forwarded to an evaluation committee that will include the director of the center, representatives of the Technion and external representatives.

As part of the process, the bidders will be invited to present their proposals to the center's management forum. During the presentations they will answer the forum's questions and get an opportunity to update their proposals according to the questions and comments. If necessary, the bidders will be invited for a follow-on presentation.

The committee will rate the proposals according to originality, creativity, applicability and scientific/technological merit, as well as according to the judging committee's assessment of the research's chance of success, and will recommend, at its sole discretion, the recipients of the grants.



Submission of proposals:

The proposals must be submitted no later than June 30, 2024, to the address: evpr.researchsec@technion.ac.il with copy to amnon.harari@technion.ac.il

For questions and clarifications please contact the undersigned.

In parallel to the submission of the research proposal by mail, researchers will register the research proposal through the Technion portal:

<https://portal.technion.ac.il>

Reporting:

Grant winners must submit to the center's management a semi-annual progress report and a summary scientific report at the end of the funding period. The report will detail the progress of the research and will also include a financial breakdown, per a format that will be defined.

Bgd. Gen. (Res) Amnon Harari
Head of the Center for High Speed Flight



Appendix – Research Proposal Format – The Center for High Speed Flight

Project/Research name

PI names:

Faculty

Date

Submitted to the Center of High Speed Flight

General instructions:

1. The purpose of this document is to enable the center's executive forum and professional reviewers on its behalf to understand the research proposal. Therefore, the document should be as detailed and extensive as possible, without assuming that the evaluation committee has prior knowledge of the field.
2. The document should be formatted according to this template, with a total length of 5 pages, not including references or CV.

Executive Summary

This section should concisely present the main and important aspects of the proposal to key academic and administrative personnel. The summary should present an orderly research process that will lead to the completion of the activity, with as few technical/scientific details as possible, so that the reader of the executive summary can understand the core issues of the proposed program.

The abstract should include the following points from the proposal:

- What is the vision of the research?
- How is the proposed research problem being dealt with nowadays (in Israel and internationally)?
- What is new in the proposal?
- If the research is successful, what will be the impact of the success and how will it be measured?
- Expected main risks and opportunities.
- Financial cost.
- Schedule.
- Main objectives, go/no-go and final goal.
- How will progress be assessed? What are the indicators for examining progress?



Keywords

In this section, the keywords relevant to the research field within the proposal must be completed.

Motivation

This section should detail the need for the proposed research, what challenges the research is addressing in the field of hypersonic flight, and what benefit will be achieved if the research is successful.

Scientific background

In this section, the researcher will provide technical/scientific details required to support the proposed research. This section should also include any information, explanations, or constraints required in order to understand the proposed study, including references to studies that have been performed in the past and how the present research fits into this context.

Objectives and Outputs

Objectives: In this section, the researcher will specify clearly and concisely what are the goals that are trying to be reached through the research.

Indicators: In this section, the researcher will specify what indicators will be used for evaluating and measuring his activities in the project in a quantifiable way.

Outputs: In this section, the researcher will specify which outputs will be obtained in the project in each of the phases towards reaching the objectives (for example: closing a knowledge gap, solving a specific problem, computational model, experimental system, technological demonstrator, prototype, etc.).

The significance of the study

In this section, the researcher will detail what new capabilities/potential "leaps" are expected/will be obtained from this research when all of its objectives are fully accomplished. What is the impact and contribution of this research to the benefit of the relevant community if it is fully successful?

Detailed description of the proposed study

Research methodology: In this section, the researcher will describe the research method by describing the technological/scientific building blocks that are required and should be carried out within the scope of the overall research plan in a logical and orderly manner.

The research plan: The research plan should provide a timeline describing the research activities (Gantt in months).

Risk analysis and alternative directions: Every technology has limitations and disadvantages. The researcher should demonstrate an understanding of the risk factors during the proposed study. Critical technologies should be identified along with their impact on the overall program.



Resources (initial assessment)

Expense	Budget (NIS)	notes
Personnel		
Materials		
Equipment		
Subcontractors		
Stationary		
Travel		
Total cost estimate, including VAT & overhead (15%)		

Contact info

Principal Investigator: [Name]
Additional researchers: [names]
Institution and sub-institution: [Faculty of AAAAAA]

Sources/ relevant prior knowledge/ patents/ intellectual property

Principal investigator statement

I understand and agree that my proposal will be sent to reviewers for the purpose of obtaining an opinion.

Date: _____

Name and signature of the principal investigator: _____

References (Can extend beyond 5 pages)

Background and past experience of the researcher

Attach abbreviated CVs of the bidders: information relating to the last five years (articles published, students advised, funded research proposals, etc.)