NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)
HEADQUARTERS
SPACE TECHNOLOGY MISSION DIRECTORATE
300 E Street SW
Washington, DC 20546-0001

SPACE TECHNOLOGY RESEARCH GRANTS PROGRAM,

NASA SPACE TECHNOLOGY GRADUATE RESEARCH OPPORTUNITIES –

FALL 2025 (NSTGRO25)

APPENDIX

to

NASA Research Announcement (NRA): Space Technology –
Research, Development, Demonstration, and Infusion-2024
(SpaceTech–REDDI–2024), NNH24ZTR001N

APPENDIX NUMBER: NNH24ZTR001N-25NSTGRO-B4

Appendix Issued: *August 23, 2024*
Proposals Due: *November 1, 2024* (6 PM Eastern, 3 PM Pacific)

NASA Assistance Listing Number 43.012

OMB Approval Number 2700-0092 (Expires 9/30/2026)

Summary of Key Information

Appendix Name: NASA Space Technology Graduate Research Opportunities – Fall 2025 (NSTGRO25), hereafter called "Appendix," to the SpaceTech-REDDI-2024 NRA, hereafter called "NRA."

Goal/Intent: NSTGRO is a fellowship opportunity focused on graduate student research and development of advanced and innovative space technologies critical for our Nation to meet its goals to explore and understand the Earth, our solar system, and the universe.

Eligibility: See 3.0 – Eligibility Information

Key Dates:

Event	Date
Solicitation release	August 23, 2024
Deadline for submission of proposal	November 1, 2024 at 6 PM ET, 3 PM PT
Deadline for submission of Letters of Recommendation	November 6, 2024 at 6 PM ET, 3 PM PT
Selection notification	April 9, 2025 (target)
Deadline for intent to accept	April 30, 2025 (target)
Deadline for submission, by university, of additional documents required for award processing (e.g., budget with justification, PI CV, Data Management Plan)	May 14, 2025 (target)
Award start date	August 2025 (target)

Selection Process: Independent subject matter expert peer review

Award Details: See 2.0 – Award Information

Type of Instrument to be used for awards: Grants

Points of Contact: See 7.0 – Points of Contact for Further Information

Significant Change:
None.

NASA SPACE TECHNOLOGY GRADUATE RESEARCH OPPORTUNITIES – FALL 2025 (NSTGRO25)

Table of Contents

Note: The organization and section numbering of this Appendix mirror the SpaceTech-REDDI-2024 NRA for convenience when cross-referencing content between the two documents.

1.0 FUNDING OPPORTUNITY DESCRIPTION

1.1 Program Introduction/Overview

Through this fellowship opportunity, NASA's Space Technology Mission Directorate (STMD) seeks to sponsor U.S. citizen, U.S. national, and permanent resident graduate student research that has significant potential to contribute to NASA's goal of creating innovative new space technologies for our Nation's science, exploration, and economic future. The development of advanced and innovative space technologies is critical for our Nation to meet its goals to explore and understand the Earth, our solar system, and the universe. Space technology efforts will improve the Nation's leadership in key research areas, enable far-term capabilities, and motivate disruptive innovations that make science, space travel, space exploration, and commercial space more effective, affordable, and sustainable. NASA Space Technology Graduate Research Fellows will improve America's technological competitiveness by providing the Nation with a pipeline of innovative space technologies. NASA's pursuit of a suite of revolutionary discoveries will also lead to major breakthroughs that are needed to address energy, health, transportation, and environmental challenges.

This call for graduate student space technology research proposals, titled *NASA Space Technology Graduate Research Opportunities – Fall 2025* (NSTGRO25), solicits proposals on behalf of individuals pursuing or planning to pursue master's or doctoral (PhD) degrees in relevant space technology disciplines at accredited U.S. universities.

It is NASA's desire to infuse the university-developed space technology through sustained interaction with the student and their faculty advisor. NASA Space Technology Graduate Research Fellows will perform research at their respective campuses and also at NASA Centers. Each recipient will be matched with a technically relevant and community-engaged NASA researcher who will serve as the research collaborator on the award. Through this collaboration, graduate students will be able to take advantage of broader and/or deeper space technology research opportunities directly related to their academic and career objectives, acquire a more detailed understanding of the potential end applications of their space technology efforts, and directly disseminate their research results within the NASA community.

Awards resulting from this solicitation will be made in the form of grants to accredited U.S. universities with the faculty advisor as the Principal Investigator (PI).

The financial and programmatic support for NSTGRO comes from STMD. The awards are a component of the Space Technology Research Grants (STRG) Program. STRG seeks to engage the entire spectrum of academic researchers, including graduate students, through five competitive solicitations: NASA Space Technology Graduate Research Opportunities, Early Career Faculty, Early Stage Innovations, Lunar Surface Technology Research Opportunities, and Space Technology Research Institutes; all STRG solicitations are released as appendices to the Space Tech-REDDI NRA. The NSTGRO awards, which fund graduate student space technology research, are an integral component of NASA's overall space technology portfolio.

Material further describing STMD and its programs is available at http://www.nasa.gov/directorates/spacetech/home/index.html.

1.2 Program Goals and Objectives

The 2022 NASA Strategic Plan identifies the Agency's four Strategic Goals:

1. *Expand human knowledge through new scientific discoveries.*
2. *Extend human presence to the Moon and on towards Mars for sustainable long-term exploration, development, and utilization.*
3. *Catalyze economic growth and drive innovation to address national challenges.*
4. *Enhance capabilities and operations to catalyze current and future mission success.*

The role of STMD in achieving these goals is defined as follows:

The Space Technology Mission Directorate (STMD) invests in transformational technologies that help offset future mission risk, reduce cost, advance capabilities that enable NASA's missions, and support space industry growth and high-quality job creation. STMD identifies and promotes research and technology development, demonstrates applicability, and supports the infusion of these technologies into NASA's exploration and science missions as well as commercial space activities.

In support of the above, STMD is interested in attracting outstanding graduate student researchers who are committed to developing ***innovative technologies*** for the aerospace sector and to being part of the Nation's technological future by working on high-priority technologies to sustainably explore space.

With this solicitation, NASA is seeking to support low Technology Readiness Level (TRL) **space technology** research and development; TRL descriptions are provided in Attachment 2 of the NRA.

1.3 Research Areas

The proposed research *must be clearly associated with **space technology***. STMD has organized the agency's space technology investments into a Strategic Framework with the goal of achieving desired outcomes through technology development. The framework is articulated through a series of Envisioned Futures documents grouped into categories of investment (Thrusts):

- Rapid, Safe, and Efficient Space Transportation ('Go')
- Expanded Access to Diverse Surface Destinations ('Land')
- Sustainable Living and Working Farther from Earth ('Live')
- Transformative Missions and Discoveries ('Explore')

The Envisioned Futures documents are focused on possible futures enabled by achieving one or more outcomes; as a result, they will often not feature lists and/or descriptions of the underlying technologies, especially those at low TRLs. However, these documents do highlight potential infusion pathways, thereby providing *inspiration/motivation* for the early-stage technology projects that are sought through NSTGRO. The Envisioned Futures documents are intended to inspire rather than limit

prospective fellowship recipients; NASA's low TRL space technology interests extend beyond what is listed. With the NSTGRO solicitation, NASA is excited about the contribution of the nation's graduate students not only to addressing the technology gaps currently articulated in the documents but also to early stage technology development that could enable capabilities that have not yet been imagined.

The Strategic Framework Envisioned Futures documents are listed here; they are grouped by Thrust and individual links are provided:

GO

- Space Nuclear Propulsion
- Cryogenic Fluid Management
- Advanced Propulsion

LAND

- Precision Landing and Hazard Avoidance
- Entry, Descent, and Landing to Enable Planetary Science Missions
- Enable Lunar/Mars Global Access and ~20t Payloads

LIVE

- Advanced Habitation Systems (AHS)
- In-Situ Resource Utilization (ISRU)
- Power and Energy Storage
- Thermal Management Systems
- Excavation, Construction, and Outfitting (ECO)
- Surface Systems

EXPLORE

- Advanced Avionics
- Advanced Manufacturing
- Autonomous Systems and Robotics (ASR)
- Communications and Navigation
- In-space Servicing, Assembly, and Manufacturing (ISAM) and Rendezvous, Proximity Operations, and Capture (RPOC)
- Small Spacecraft Technologies
- Sensors, Instruments, and Observatories

The student is asked to identify, in response to Program Specific Data Question #1, the Envisioned Futures document – from the list above – that the research described in the Project Narrative is primarily intended to impact. An explanation for this selection is requested in response to Program Specific Data Question #2.

If your research addresses more than one of the Envisioned Futures listed above, please indicate which you view as primary in response to Program Specific Data Question #1; you may discuss other relevant Envisioned Futures in response to Program Specific Data Question #2.

Note that the area of **advanced materials** does not appear in the title of any of the Envisioned Futures documents. Research in advanced materials for space technology applications is very important to STMD as it has the potential to be enabling in areas including, *but not limited to,* advanced manufacturing, advanced propulsion, entry, excavation and construction, habitation systems, power and energy storage, robotics, and thermal management. Students with interest in advanced materials for space technology are encouraged to articulate how their project would impact one or more of the Envisioned Futures, which could include cases where advanced materials are not *explicitly* mentioned in the corresponding document but nonetheless could be enabling. If you believe your technology is a fundamental materials technology which is cross-cutting to multiple Envisioned Futures, you may discuss the relevance in Program Specific Data Question #3.

STMD has recently published a 2024 Civil Space Shortfalls document overviewing 187 technology shortfalls – technology areas requiring further development to meet future exploration, science and other mission needs. This document integrates input received from NASA mission directorates and Centers, small and large industry organizations, other government agencies, and academia. Students may find this document to be a useful resource in further understanding details associated with NASA's technology challenges.

Please note that NSTGRO is specifically aimed at **space technology** and is intended to complement other NASA opportunities (e.g., the Science Mission Directorate's or the Aeronautics Mission Directorate's opportunities for graduate student researchers). **Project Narratives must be specifically focused on low TRL space technology; Project Narratives that are focused on science investigations (e.g., space or biological science) to inform technology development or the use of existing technologies to conduct science investigations will be deemed non-compliant and will not be submitted for review.**

2.0 AWARD INFORMATION

Awards are authorized by The National Aeronautics and Space Act of 1958, 51 U.S.C. § 20113 (e), as amended. Such awards are necessary for preserving "the role of the United States as a leader in aeronautical and space science and technology and in the application thereof to the conduct of peaceful activities within and outside the atmosphere" (51 U.S.C. § 20102 (d)(5)); this solicitation is focused on space technology.

NASA made 66, 55, 50, 58, and 63 new grant awards as a result of the last four solicitation cycles (NSTGRO24, NSTGRO23, NSTGRO22, NSTGRO21, and NSTGRO20, respectively). NASA expects to make a similar number of new NSTGRO25 awards, pending the receipt of highly meritorious proposals and the availability of funds. This solicitation covers only proposals for new awards; continuations of existing awards are handled separately.

A NASA Space Technology Graduate Research Fellow is expected to engage in grant activities full-time. NSTGRO awards are multi-year awards:

- A graduate student receiving master's degree support (see Master's Support profile in 3.0 – Eligibility Information) must be supported by the NSTGRO grant for a minimum of 1 full year

– through at least July of 2026 – and with the visiting technologist experience (see below) specifically addressed. A maximum of 2 years of support may be received.

- A graduate student receiving doctoral degree support (see various profile options in 3.0 – Eligibility Information) must be supported by the NSTGRO grant for at least 2 years – graduation on or after August of 2027 – and may receive a maximum of 4 years of support, provided that neither of the following special considerations applies.

Special consideration 1: A student who received or is receiving master's degree support under an NSTGRO (or NASA Space Technology Research Fellowship (NSTRF) – the predecessor solicitation) award may formally (i.e., not via the continuation process) have a proposal submitted on their behalf, if eligible, to the NSTGRO25 Appendix for doctoral support; however, the maximum number of years of doctoral support will be adjusted by the year(s) of NSTGRO (or NSTRF) master's support already received.

Special consideration 2: Students who are current or former recipients of a federal graduate fellowship or scholarship may not be eligible for the full years of support generally associated with NSTGRO. Specifically, if the proposal is selected, the number of years of federal fellowship or scholarship support plus the *requested* years of NSTGRO support may total no more than 5. Program Specific Data Questions #10 and #11 request information related to ongoing or previous federal fellowship/scholarship support. A student may not accept the NSTGRO fellowship and another federal fellowship, even if the latter is deferred.

Awards resulting from this Appendix are planned to coincide with the start of the 2025 academic year. Three start dates are permitted: August 1, August 15, and August 29 (all 2025). The requested start date should reflect the desired start date that best aligns with the university's academic calendar. The end date is the date the student expects to complete their degree program (i.e., end of NSTGRO funding), subject to the maximum year limitations specified above. Awards may not be deferred.

Visiting Technologist Experience – As part of the fellowship, NASA Space Technology Graduate Research Fellows will also perform research at NASA Centers. The visiting technologist experience – to be completed annually – is an integral component of an NSTGRO award. Through this experience, Fellows will have the opportunity to work collaboratively with leading engineers and scientists in their chosen area of research; they will be able to take advantage of broader and/or deeper space technology research opportunities directly related to their academic and career objectives, acquire a more detailed understanding of the potential end applications of their space technology efforts, and directly disseminate their research results within the NASA technical community.

The target duration for each visiting technologist experience is ten weeks, though the actual weeks chosen (number and timeframe during the year) will depend upon the student, their faculty advisor, and the NASA research collaborator. It is the Program's intent to offer flexibility in the execution of the visiting technologist experience grant requirement with the experience contributing to the graduate student's research and career objectives. Because experts in a specific technical area are typically located at multiple NASA Centers, multi-year NASA Space Technology Graduate Research Fellows are

permitted to conduct visiting technologist experiences at multiple locations. Visiting technologist experiences are coordinated with the NASA research collaborator and approved by the Program; visiting technologist experiences at United States non-profit R&D laboratories and other government agencies are possible in special circumstances with prior Program approval. Note: As discussed in 4.4.2.3 – Proposal, the Project Narrative may not assume the availability of NASA test facilities in the conduct of the research proposed in the Project Narrative.

Research Collaborator - A single NASA research collaborator will be assigned to each award for the duration of the grant; this research collaborator will serve as the conduit into the broader technical community associated with the NASA Space Technology Graduate Research Fellow's research. The student will have the opportunity to conduct visiting technologist experiences co-located with their research collaborator and at other NASA Centers.

Selected NSTGRO25 proposals will result in grant awards. The maximum amount of an NSTGRO award will be $84,000 per year. Not-to-exceed values in each category are provided in the table below. Not all awards will require the maximum amount per year. Annual budget requests will be required; any funds not spent during a grant year will either be deducted from the request for the following year or de-obligated during grant closeout.

Table 1. NSTGRO25 Budget Categories

Category	Maximum value (annual)
Student Stipend	$40,000
Student Support Allowance	$11,000
Visiting Technologist Experience Allowance	$10,000
Health Insurance Allowance	$2,500
Tuition and Fees Allowance	$20,500
TOTAL	**$84,000**

The NSTGRO budget categories are explained below.

1. **Student Stipend**: It is expected that the student will receive the maximum value, without deductions. Stipend payments may not be reduced by items that the university would normally consider indirect costs or fringe benefits. Stipends are assumed to be for student personal expenses and are not intended for supporting research expenses. The stipend value assumes a 12-month tenure and should be prorated for shorter periods.

2. **Student Support Allowance**: To be used to directly enhance the student's experience. May be used to cover student travel to technical and scientific meetings; it is expected that the student will attend at least one technical conference annually for presentation of the work being conducted under the grant. Other permissible charges in this category include expendable laboratory supplies, lab books, page charges for journal articles, printing of a thesis, and similar charges. Faculty advisor travel in direct support of the NASA Space

Technology Graduate Research Fellow is permitted. This allowance may not be used to supplement the student stipend.

3. **Visiting Technologist Experience Allowance**: This allowance is to allay costs associated with temporarily relocating to a NASA Center (or, with prior Program approval, a United States nonprofit R&D laboratory location) that represents a strong technical fit with the research being performed on the grant. It may be used ONLY in preparation for the experience (e.g., trips prior to and in preparation for the actual visiting technologist experience) and the student's relocation and living expenses associated with the actual experience. The allowance may not be used for other research expenses at the visiting technologist experience location or at the university.

4. **Health Insurance Allowance**: Permissible up to maximum value, only to the level of the expected actual premium amount.

5. **Tuition and Fees Allowance**: Permissible up to maximum value. While the student is a NASA Space Technology Graduate Research Fellow, the university must exempt the student from paying the difference between the tuition and fees allowance and the actual tuition and fees.

Initial funding will be for 1 year; continuations are contingent upon satisfactory progress (as reflected in academic performance, research progress, recommendation by the faculty advisor, and recommendation by the NASA research collaborator) and the availability of funds.

The NSTGRO grant does not provide university overhead. As per the NASA Grant and Cooperative Agreement Manual (GCAM), NASA fellowship awards shall not provide for the payment of facilities and administrative, overhead, or indirect costs. NSTGRO funds may not be used in support of other university personnel (i.e., beyond the student and, if beneficial to the fellowship and requested, faculty advisor travel).

Equipment, including computers, may not be purchased with NSTGRO funds.

The transfer of funds between budget categories is not permitted, except in limited instances. For example, a portion of the Student Support Allowance may be used to supplement health insurance or tuition and fees, provided that the requirements of the Student Support Allowance have been met.

Note: Students may request an *unpaid* leave of absence (LOA) for the purpose of incorporating professional development opportunities into their graduate programs. The maximum duration of an LOA period is 3 months; up to two LOA periods may be requested over the course of the NSTGRO award. An LOA may not be requested during the first year of the award. An LOA opportunity must be in direct furtherance of the graduate researcher's research and career goals, and the request must be submitted with the concurrence of the faculty advisor (PI on the grant). The LOA request and a revised budget that reflects the LOA period must be approved by NASA; time spent on an LOA may be added to the regular end date of the overall award.

3.0 ELIGIBILITY INFORMATION

This NSTGRO call for graduate research proposals seeks to fund space technology research projects from students pursuing (or planning to pursue) master's or doctoral degrees relevant to space technology. A proposal which fails to meet one or more of the requirements described in this solicitation will be deemed non-compliant and will not be sent on for review.

Only one proposal may be submitted on behalf of a student in response to this solicitation; the student's faculty advisor will serve as the PI. A faculty advisor is permitted to serve as PI on proposals for more than one student. There is no limit on the number of proposals that may be submitted by an accredited U.S. university. Duplicate proposals (i.e., the same or very similar project description but different graduate student researchers) is in violation of the requirements of the solicitation (see 4.4.1 – Electronic Proposal Submission).

The proposal must be submitted by an accredited U.S. university unless one of the following two conditions applies. If the individual seeking support (1) is currently an undergraduate and does not know which accredited U.S. university they will be attending in the fall of 2025 *or* (2) is currently not enrolled as either an undergraduate or graduate student and does not know which accredited U.S. university they will be attending in the fall of 2025, the NSTGRO Proposal Submission Office (NPSO) will submit the proposal on their behalf (see 4.4.1 – Electronic Proposal Submission). Justification for proposal submission by the NPSO must be provided in response to Program Specific Data Question #14. If the individual seeking support is currently enrolled in graduate school and is planning to change universities, it is expected that the fall 2025 university will submit the proposal on the student's behalf; the student should contact the Program (see 7.0 – Points of Contact for Further Information) if this is not possible.

This solicitation seeks proposals on behalf of students who meet the following eligibility requirements:

- Pursuing or seeking to pursue advanced degrees directly related to space technology – only technical degrees are permitted (i.e., not degrees in policy or management). Students who are or will be enrolled in a joint or dual professional degree/PhD program are not eligible, nor are students who are on leave from such a program or a professional degree program.
- U.S. citizens, U.S. nationals, or permanent resident aliens of the U.S. at the time of proposal submission. The term "nationals" refers to native residents of a possession of the United States such as American Samoa.
- Have or will have a bachelor's degree prior to the fall 2025 term.
- Are or will be enrolled in a full-time master's or doctoral degree program at an accredited U.S. university – which, in general, is also the university submitting the proposal (specific exceptions are identified above) – in fall 2025. Awards may not be deferred.
- Meet one of the eligibility profiles described in *Table 2. NSTGRO25 Eligibility Profiles* below.
- If seeking support in pursuit of a master's degree, require at least 1 full year of support from fall 2025 (see 2.0 – Award Information).
- If seeking support in pursuit of a doctoral degree, require at least 2 full years of support from fall 2025 (see 2.0 – Award Information).

NASA values submission of NSTGRO proposals on behalf of students at all U.S. universities, including emerging research institutions (non-R1 classification) and minority-serving institutions, and encourages proposals submitted on behalf of diverse communities.

The above requirements (and the table of eligibility profiles below) reflect NASA's desire to maximize the potential for infusion of the university-developed space technology through sustained interaction with the graduate researcher and the faculty advisor (PI on the grant). As part of the Program Specific Data Questions (#23-#24), students will be asked to identify and justify their eligibility in terms of one of the following four profiles.

Table 2. NSTGRO25 Eligibility Profiles

Profile Title	Description
Master's Support	• Seeking support for a master's degree and will be in pursuit of this degree in fall 2025 term • Holds no technical graduate degree • Will have completed one year or less of technical graduate studies by the start of the fall 2025 term • Will have at least 1 remaining year in their master's degree program as of the fall 2025 term (i.e., graduation occurs no earlier than August 2026)
Eligible students whose goal is to receive a doctoral degree should request "Doctoral" support, even if their university requires them to obtain a master's degree first; the proposal submitted must cover the entire intended period of study with a single, continuous research topic.	
Doctoral Support 1	• Seeking support for a doctoral degree and will be in pursuit of this degree in fall 2025 term • Is currently an undergraduate
Doctoral Support 2	• Seeking support for a doctoral degree and will be in pursuit of this degree in fall 2025 term • Holds a bachelor's degree • Will have completed 1 year or less of technical graduate studies by the start of the fall 2025 term • Will have at least 2 remaining years in their doctoral degree program as of the fall 2025 term (i.e., graduation occurs no earlier than August 2027)
Doctoral Support 3	• Seeking support for a doctoral degree and will be in pursuit of this degree in fall 2025 term • Holds a bachelor's degree • Does not hold a technical doctoral degree • Will have completed four years or less (but more than one year) of any technical graduate studies by the start of the fall 2025 term • Will have at least 2 remaining years in their doctoral degree program as of the fall 2025 term (i.e., graduation occurs no earlier than August 2027)

<u>Notes for all profiles</u>:

1. All post-bachelor's degree studies must be counted.
2. Time spent away from campus participating in technical internships must be included in the time spent in graduate school.
3. Students who have been or are enrolled on a part-time basis may also be eligible; the justification provided in the response to Program Specific Data Question #24 should include the calculation of a full-time equivalent time in graduate school (based on a comparison of their progress to-date with typical full-time graduate student progress).

Proposals requesting doctoral support under NSTGRO25 will not be considered compliant if the prospective NSTGRO recipient requested doctoral support under two prior NSTGRO (and/or NSTRF) solicitations, whether or not they were enrolled in a graduate program at the time of previous proposal submission; this restriction is addressed by Program Specific Data Question #15. The restriction is relaxed if one of the proposals for doctoral support was made while the student was an undergraduate; in those cases, if the student is otherwise eligible, doctoral support may be requested a third time under this NSTGRO solicitation.

An NSTGRO recipient is expected to engage in their grant activities full-time. A NASA Space Technology Graduate Research Fellow may not concurrently be supported by an NSTGRO award and also be the recipient of a federal graduate fellowship (see 2.0 – Award Information). In addition, if selected under NSTGRO, students who are or were recipients of a federal fellowship or scholarship may be supported by an NSTGRO grant for the number of years that brings the total number of years of support to no more than 5.

Students who are currently participating in the NASA Pathways Program are eligible to have proposals submitted on their behalf. If the proposal is selected, both Pathways and NSTGRO approval are required (i.e., must demonstrate the ability to meet the requirements of both) prior to accepting NSTGRO. For current Pathways participants, the Project Narrative must be distinct from their Pathways assignment(s); the student will be required to provide an explanation in response to Program Specific Data Question #13. Please note that the earliest a Pathways tour can be scheduled will be the fall 2026 semester. Also note that visiting technologist experience locations and Pathways tours are not typically with the same organization – the primary objective of the annual visiting technologist experience (normally ten weeks per year) is to supplement and enhance the research proposed in your Project Narrative.

4.0 PROPOSAL SUBMISSION INFORMATION

4.1 Introduction

Proposal submitted in response to this Appendix will be evaluated and selected through a one-step process.

4.4 Proposal Content and Submission

4.4.1 Electronic Proposal Submission

All proposals must be electronically submitted via NSPIRES by an Authorized Organizational Representative (AOR) of the university where the student will be enrolled in the fall of 2025, unless the university is unknown. If the fall 2025 university is unknown, the individual may request that the NPSO submit a proposal on their behalf (see 3.0 – Eligibility Information). No hard copy of the proposal will be accepted. Proposals submitted via email or any means other than NSPIRES will not be accepted.

The electronic proposal must be submitted in its entirety no later than 6 PM Eastern (3 PM Pacific) on November 1, 2024. Proposals submitted after the proposal deadline will be considered late and may be

rejected without review. No extensions will be granted to accommodate either late or partial submissions.

The prospective NASA Space Technology Graduate Research Fellow must be the primary architect and author of the submitted proposal, with minimal assistance from other researchers such as current/prospective faculty advisors, mentors, or collaborators. By having the proposal submitted for consideration, the student and faculty advisor, if applicable, certify that the student is the principal author of the proposal. NASA civil servants, JPL employees, or on- or near-site contractors may not provide input to the Project Narrative.

A proposal that is so similar to one previously submitted as to indicate a lack of originality (unless it is submitted on behalf of a student who proposed to a previous solicitation and prepared a revision of their own previously submitted proposal), may be deemed non-compliant.

Detailed instructions for registering in NSPIRES and submitting electronic proposals are located at https://nspires.nasaprs.com:

1. Under the "Solicitations" banner, click on "OPEN,"
2. Enter "NSTGRO" in the "Filter by" box,
3. Click on the **NASA Space Technology Graduate Research Opportunities - Fall 2025 (NSTGRO25)** link, and
4. Then select *NSTGRO25 Proposal Submission Instructions.pdf* under "Other Documents."

Proposing students and their faculty advisors (PIs on the proposals) are urged to access the NSPIRES electronic proposal submission system well in advance of the proposal due date to familiarize themselves with its structure and to enter the requested information. In addition, they are responsible for ensuring AOR availability prior to the deadline indicated above. See the submission instructions for full details.

4.4.2.3 Proposal

Submitted proposals must include items 1-6 described in Table 3, appropriately labeled and in the order specified. NSPIRES will automatically generate introductory cover pages (item 1) based on the proposer input directly in NSPIRES. Items 2-6 must be formatted as a single searchable, unlocked (unsecured) PDF file and uploaded to NSPIRES. Letters of Recommendation (item 7) are not part of the single PDF document; they must be submitted using the process described further below.

Please use the checklist in the *NSTGRO25 Proposal Submission Instructions* to ensure that all required components have been assembled/submitted per the requirements of the solicitation. Only the items in Table 3 will be considered. Pages in excess of the published limits will not be considered by reviewers. Non-compliant proposals will not be submitted for review.

Table 3. Summary of NSTGRO25 Proposal Components

Component	Page Limit	Notes
Produced by NSPIRES based on input by student		
1 – Proposal Cover Page Information (which includes responses to the Program Specific Data Questions)	N/A	Completed online (pages are generated by NSPIRES once the required sections have been completed) Note: the title must be reflective of the Project Narrative
Single PDF document uploaded to NSPIRES by student		
2 – Personal Statement	2 pages	Part of single PDF
3 – Project Narrative	5 pages – graphics/tables/figures included in page limit – references not included in 5-page limit	Part of single PDF
4 – NSTGRO Schedule	1 page	Part of single PDF
5 – Curriculum Vitae (CV) of the student	2 pages (see note below regarding publications/ presentations)	Part of single PDF
6 – Transcripts	N/A	Part of single PDF
Submitted by Letter Writers directly via https://forms.gle/aGfvPaDhwn4TXjdQ6		
7 – Letters of Recommendation	2 pages per Letter	Three letters

1. ***Proposal Cover Page Information*** (NSPIRES-generated). The cover pages, to be completed online, include basic proposal data, a proposal summary/abstract and responses to the NSTGRO25 Program Specific Data Questions. A copy of these questions is provided, for informational purposes, in the Supplement to this Appendix.

   The proposal title should be technically descriptive of the proposed project. The proposal summary should be 100-300 words long, focused on the Project Narrative, and understandable to a non-expert. The Proposal Cover Page Information is part of the proposal and must be completed by the proposal deadline.

   Due to the number of questions and the level of detail required for some answers, it is recommended that the student (and faculty advisor for Program Specific Data Question #5) complete the Program Specific Data Questions well in advance of the proposal deadline.

The following required proposal elements (2-6) must be combined into a single searchable, unlocked (unsecured) PDF file and uploaded to NSPIRES for submission.

2. ***Personal Statement.*** This section of the proposal must be clearly labeled as "Personal Statement" and may not exceed two pages in length (using 12-point font with at least 1-inch margins on all sides). The student should use the Personal Statement to explain their academic, research, and career goals as they relate to space technology.

   The Personal Statement should

   - Describe how the proposed course of study and research will help in achieving their academic, research, and career goals as they relate to space technology. Discuss the rationale for attending their graduate university or, if undecided, the rationale for applying to the universities given in response to Program Specific Data Questions #30-#32.
   - Speak to their background, leadership and collaborative potential, ability to communicate, and potential for investigation and engagement in space technology problems and their solutions.
   - Discuss the background information that provides insight into the origin of, the student's connection to, and the motivation for the research project proposed in the Project Narrative.
   - If applicable, provide explanations for poor grades that may appear on the submitted transcript(s); all graduate grades of B- or lower must be addressed. Note: It is also permissible for poor grades in key courses (graduate and/or undergraduate) to be addressed in a Letter of Recommendation.

3. ***Project Narrative.*** This section of the proposal must be titled "Project Narrative: <*Proposal Title*>" and may total no more than **five single-spaced pages** (using 12-point font with at least 1-inch margins on all sides), not including the references or bibliography. Graphics/figures/tables are permitted/encouraged and count towards the five-page limit; figure captions (which may use 8- or 10-point font) must include the citation, unless depicting the student's own unpublished work. The Project Narrative should reflect the student's ability to think independently and creatively, as well as their ability to write about research plans accurately, thoughtfully, and concisely. The level of specificity provided in this section is expected to vary with the student's current educational level and the degree for which they are seeking NSTGRO support. A student who has already completed two or more years of graduate study is expected to provide a more detailed research plan than a student who is currently an undergraduate or a first-year graduate student.

   The Project Narrative must provide a description of the student's research plans, and as stated above, the student must be the primary author/architect. It is understood that a student's research objectives may evolve as they progress in their graduate research (this is the nature of low TRL research), particularly for students in the early stages of their graduate careers. However, each NASA Space Technology Graduate Research Fellow is expected to pursue the space technology research described in the submitted Project Narrative. The Project Narrative should identify and discuss the innovation of the proposed research and its relevance to space technology.

   The research should be discussed in sufficient detail that an expert who is technically competent in the appropriate technical area can assess the student's understanding of the questions to be

addressed. Appropriate detail includes a well-defined problem with justification; approaches to be employed in answering the questions; how the proposed project relates to key ongoing, related research; space technology relevance and benefits of the proposed research; and anticipated accomplishments and major milestones commensurate with the years of support requested.

The NSTGRO solicitation is seeking the best low-TRL space technology research ideas from graduate student researchers; **this solicitation does not seek NASA-developed ideas for space technology research projects.** Projects that are inspired by and extend NASA-developed ideas must clearly articulate how the proposed work differs from the NASA research.

A pre-existing collaboration with a NASA Center (including JPL) is not required or expected for a successful proposal. In cases where there is a pre-existing NASA collaboration, the proposal must articulate how the proposed effort differs from the ongoing work, and the student's unique contributions must be clear.

In cases where the student is (or will be) contributing to a project being executed by a research team, either at their university and/or involving multiple universities and/or other entities, the Project Narrative should precisely articulate their planned contributions to the overall project and clearly distinguish their proposed effort from the currently funded work. NSTGRO grants are not intended to serve as additional sources of funding for existing efforts.

Finally, the Project Narrative must discuss how the **annual** visiting technologist experience would be an important component of the student's plans. In addition, in Program Specific Data Question #33, the student may, but is not required to, identify the specific NASA Centers which would be of strongest benefit to their research plan.

Students may not assume the availability of NASA facilities in the conduct of their research; that is, it is *not* permitted for NASA facilities to be *required* for the proposed research. It is permissible (but not required or expected) to include a statement regarding how NASA facilities could *enhance* the proposed research if the facilities were to become available.

Please note that research collaborator identification and assignment are separate internal NASA processes that are performed outside of this solicitation. The Program will consider existing/ongoing collaborations during the research collaborator selection process but cannot be bound by them. **The student should not pre-arrange a research collaborator or visiting technologist experiences**.

4. ***NSTGRO Schedule*.** This section must be entitled "NSTGRO Schedule" and may not exceed one page (there is no standard format). The NSTGRO Schedule must include the proposed start and completion dates, the anticipated *academic degree program* (coursework, qualifying exams), and *research milestones* (start and completion of research tasks, visiting technologist experience) for each year of NSTGRO support requested. The academic degree program should include current term and planned coursework; coursework is considered to be a means of acquiring the expertise necessary to conduct the proposed space technology research project. Discussions of the research milestones should be included in the Project Narrative.

5. ***Curriculum Vitae (CV) of the student.*** The CV may be up to two pages, plus an optional publications/ presentations page, and should address the following:
    - Academic degree(s) they have received or expect to receive in the near future, including the dates, discipline(s), and institution(s).
    - Experiences relevant to this proposal with dates and a short description of responsibilities, listing the most recent positions first and the name and city/state of each organization. These could include, but are not limited to, paid employment, military service, research assistantships, internships, special studies, volunteer work, etc.
    - Honors and awards.
    - Technical/scientific publications and presentations, if any.
        - Presentations should include the title, date of presentation, type of presentation (e.g., oral or poster), and name of meeting or conference.
        - If publications and presentations are numerous, a third page is permissible. Only technical/scientific publications and presentations may appear on the third page of the CV.

6. ***Transcripts***. Electronic versions of *up-to-date* official or unofficial transcripts that cover the student's entire college career, undergraduate and graduate (if available), should be included as part of the single PDF file; scanned versions of paper copies (official and unofficial) are also permitted. Transcripts must show courses grouped by term/semester. Transcripts should be legible and clearly unaltered. The name of the university must appear on the transcript. If all or part of the student's social security number and/or complete date of birth appear on the transcript, these items must be redacted prior to submission. Since GRE scores are not permitted, if they appear on your transcript, they must also be redacted prior to submission. These are the only alterations permitted to a transcript. Degree audit reports or similar documents will not be accepted.

7. ***Letters of Recommendation.*** The Letters of Recommendation constitute an important component of the proposal. Each student must arrange for the submittal of three current Letters of Recommendation as instructed below. Failure to submit three Letters of Recommendation may negatively affect the evaluation of the proposal (see 5.0 – Proposal Review and Selection). Proposals with fewer than two Letters of Recommendation will be deemed non-compliant and not sent on for review. Letters of Recommendation are **not** part of the single PDF file uploaded to NSPIRES.

    Letters of Recommendation should come from individuals (professors, undergraduate/graduate advisors, mentors, or internship / work supervisors, etc.) with detailed knowledge of the student's background/experiences, including their academic and research abilities. If the student has an advisor for their current graduate program, one of the Letters of Recommendation is expected to come from that individual. When possible, the student should strive for diversity of institutions, and therefore insights, when requesting Letters of Recommendation (e.g., not all Letters from the student's undergraduate university). Letters from family members are not permitted.

    A Letter of Recommendation from a NASA civil servant, Jet Propulsion Laboratory (JPL) employee, or on- or near-site contractor is not required or expected for a successful proposal. There may be

instances where a Letter of Recommendation from a NASA civil servant, JPL employee, or on- or near-site NASA contractor is appropriate (i.e., the student completed an internship at a NASA Center); however, no more than one letter from a NASA civil servant, JPL employee, or on- or near-site NASA contractor will be permitted as part of the proposal package sent on for review. The one letter limitation applies to Letter of Recommendation writers who were NASA civil servants, JPL employees, or on- or near-site NASA contractors during their interactions with the student. In addition, Letters of Recommendation from NASA civil servants or JPL employees may not serve as requests to serve in the research collaborator role should the proposal be selected.

The student is strongly advised to provide the guidelines below to each individual writing a Letter. These guidelines, and also some background information, are provided in a PDF file (*NSTGRO25 LOR Guidelines.pdf*) under "Other Documents" on the NSPIRES webpage associated with the NSTGRO25 solicitation. Letters shall not be written by the student. Letter Writers should be approached early in the proposal process (i.e., well in advance of the deadline) and reminded periodically.

Students will be informed as Letters written on their behalf are submitted; one email (from nstgro@nress.org) will be sent for each letter received. It is the student's responsibility to contact Letter Writers who have not yet submitted Letters and make sure that Letters are submitted by the Letter of Recommendation deadline: November 6, 2024 (6 PM ET/ 3 PM PT); note that this is five days *following* the proposal submission deadline. No exceptions to this deadline will be granted.

Instructions for Writing NSTGRO25 Letters of Recommendation:

Letter Writers should consider the following when composing their Letters of Recommendation:

a. The Letter should include details explaining the nature of the Writer's relationship to the student.
b. The Letter should provide insight into the student's:
    - scientific acumen, creativity, and perseverance
    - motivation for space technology-related study
    - demonstrated or potential for academic excellence in coursework
    - potential for success, including in a research environment
    - leadership potential, including ability to collaborate
    - communication skills, including ability to disseminate research results and information
c. The Letter is NOT intended to endorse the proposed space technology research. The Letter should be about the characteristics of the student.
d. The Letter must be written on official letterhead, when permitted.
e. The Letter may not exceed two pages in length.
f. The Letter itself must include the student's full name (as opposed to nicknames or shortened names).
g. Letters of Recommendation that appear to be mass produced do not generally lead to high scores from the reviewers.

Instructions for Submitting NSTGRO25 Letters of Recommendation

The Letter Writer is required to submit their Letter of Recommendation as a searchable, unsecured (unlocked) PDF file using the Google Forms link: https://forms.gle/aGfvPaDhwn4TXjdQ6**.** A Google account is required to upload and submit a Letter of Recommendation. The Letter Writer will be asked to provide the following:

- Letter Writer's professional email address
- Letter Writer's first and last names
- Letter Writer's organization
- Student's email address
- Student's first and last names
- Title of student's proposal
- PDF file of the Letter of Recommendation

The Letter Writer will receive an automated confirmation email if their letter has been successfully submitted.

Letters of Recommendation will be collected by NRESS, the entity responsible for the NSPIRES system, and appended to the specified proposal.

Note: In an effort to reduce the administrative burden on the proposing organization, a budget with justification and a CV for the faculty advisor (PI) are not required proposal elements and will not be accepted. For selected proposals with students intending to pursue the NSTGRO award (i.e., the student plans to attend graduate school and pursue the research proposed in the Project Narrative), the university will be required to upload a budget with justification, the PI's CV, and a Data Management Plan (DMP – see additional information in 6.2 – Award Reporting Requirements and Intellectual Property) to NSPIRES after selection. Additional documents may be required, details will be provided at the time of selection.

5.0 PROPOSAL REVIEW AND SELECTION

5.2 Review Process

Submitted proposals will undergo an administrative review (see NRA section 5.2.1). All eligible proposals will be sent on for review by technical experts; electronic and/or panel reviews will be employed. The following two criteria will be used and are equally weighted. Both criteria will be given full consideration during the review process; each criterion is necessary but neither, by itself, is sufficient.

Reviewers will be instructed to consider the student's educational level (e.g., undergraduate at the time of proposal submission, two years of graduate studies at the time of proposal submission, etc.).

1. **Student's academic excellence, potential, and commitment to space technology**. Reviewers will be asked to consider the following elements:
    - Organizational, analytical, and writing skills;

- Demonstrated scientific curiosity, creativity, acumen, perseverance, and potential for success in research environment;
- Demonstrated excellence in coursework and potential for success in attaining an advanced degree in a space-technology-related field;
- Demonstrated commitment to space technology – the student's interest in and potential for making contributions to space technology; and
- Project origin – the extent to which the origin of, the student's connection to, and the motivation for the research project proposed in the Project Narrative is clearly articulated.

All aspects of the proposal will be considered: the Personal Statement, the Project Narrative, the NSTGRO Schedule, the Letters of Recommendation, the CV, and undergraduate and graduate (if applicable) transcripts.

2. **Relevance and technical merit of the Project Narrative**. Reviewers will be asked to consider the following elements:
    - The technical merit of the space technology research area description and knowledge of relevant research literature;
    - The extent to which relevance to space technology applications is clearly articulated;
    - The extent to which the proposed activity represents an innovative, low-TRL space technology idea;
    - The extent to which the student understands and articulates the potential impact of the visiting technologist experience on their academic/research plans; and
    - The appropriateness of the choice(s) of institution(s) relative to the proposed plan for graduate study.

    Aspects of the Personal Statement and Program Specific Data Question responses will also be taken into consideration.

Subsequent to the review, highly rated proposals will be submitted to the Space Technology Mission Directorate at NASA Headquarters for final programmatic consideration and selection. Balance within and across technical areas as well as other programmatic considerations may be taken into account.

5.2.2.3 Risk Analysis

See 5.2.2.3 of the NRA.

5.3 Selection Announcement and Award Dates

The target date to announce the selections is on or about April 9, 2025. Notification letters will be made available via the NSPIRES system; proposing students, PIs, and AORs will be informed (via email) when the notification letters are available for download.

The student to be supported under each selected proposal will be asked to verify their intention to accept the award within 21 days of notification (on or about April 30, 2024). If the student did not know their graduate university at the time of proposal submission (i.e., the NPSO served as AOR), the student

will also be required to provide their chosen graduate university and the name of their faculty advisor (PI on the grant). The proposal will then be transferred, in NSPIRES, to their selected university.

Feedback to the student will be provided upon request; requests for feedback should be submitted as instructed in the notification letter and within 30 days of notification.

6.0 FEDERAL AWARD ADMINISTRATION INFORMATION

All awards are subject to the terms and conditions, cost principles, and other considerations described in 2 CFR 200, 2 CFR 1800, and the GCAM. In addition to the requirements in this Appendix, NASA may place specific terms and conditions on individual awards in accordance with 2 CFR Part 200. Recipients of NASA grant funding shall adhere to requirements set forth in 2 CFR 200, 2 CFR 1800, 2 CFR 170, 2 CFR 175, 2 CFR 182, and 2 CFR 183. Applicants to this NOFO should be aware that awards made on or after October 1, 2024, will need to comply with the new Title 2 regulations which are posted here. The regulations posted on ecfr.gov will be updated as of October 1.

6.1 Federal Award Notice

For each selected proposal, the university will be required to upload a budget with justification, a CV of the faculty advisor (PI), and a DMP (see 6.2) to the NSPIRES site no later than May 14, 2025 (target date); instructions will be provided in the selection letter.

Unless otherwise requested in the Proposal Cover Pages, the planned start date for awards resulting from this solicitation is August 1, 2025. The following three start dates are permitted: August 1, August 15, and August 29 (all 2025). Awards may not be deferred.

Pre-award costs (i.e., expenses prior to the grant start date) are not permitted.

NASA Space Technology Graduate Research awards are grants to accredited U.S. universities. NASA will examine the proposal – with budget, PI CV, and DMP uploaded by the university to NSPIRES post-selection – for completeness (i.e., all components submitted and correct). A grant can be awarded only after all required components have been submitted. Note that negotiations with the university may be required prior to the award of the grant; in such cases, the grant award is contingent upon successful negotiations between NASA and the university.

Research Terms and Conditions

Awards from this funding announcement are subject to the Federal Research Terms and Conditions (RTC) located at https://www.nsf.gov/awards/managing/rtc.jsp. In addition to the RTC and NASA-specific guidance, three companion resources can also be found on the website: RTC Appendix A Prior Approval Matrix, RTC Appendix B Subaward Requirements, and RTC Appendix C National Policy Requirements.

6.3 Award Reporting Requirements and Intellectual Property

In accordance with 2 CFR 200 and 2 CFR 1800, the grant reporting requirements that will be specified by the award document sent to the student's host university upon issuance of the award will consist of relevant aspects of Appendix F - Required Publications and Reports of the GCAM plus the following additional technical reporting requirements:

1. A research training plan at the conclusion of the first academic term (semester or quarter) of the award. The research training plan will be based on the proposal and will more specifically tie the student's research being performed on campus with the research to be conducted at a NASA Center. Research Training Plans are updated annually.
2. Quarterly progress reports covering activities and accomplishments, plans, dissemination of results, and issues/concerns (if applicable). One of these progress reports will be replaced by a continuation package which includes an annual (i.e., since the last continuation) progress report, assessment by the faculty advisor (PI on the award), evidence of satisfactory academic progress and a budget, with justification, for the following grant year.

In addition, one of NASA's missions is to provide for the widest practicable and appropriate dissemination of information concerning its activities and the results thereof. Therefore, it is NASA's intent that all knowledge developed under this solicitation be shared broadly through publication of the results. Award recipients must comply with the provisions set forth in the *NASA Plan for Increasing Access to the Results of Scientific Research*. Selected students will be asked to provide a brief DMP that states how the student intends to publicly disseminate results; instructions will be provided post-selection. For more details on public access to scientific publications and digital scientific data resulting from NASA-funded research, see https://sti.nasa.gov/research-access/#.YE64NTKSk2x.

6.11 Requirements for Access to NASA Facilities and Information

Recipients needing access to a NASA Center, facility, or computer system, or to NASA technical information shall comply with agency personal identity verification procedures identified in the grant that implements Homeland Security Presidential Directive-12 (HSPD-12), Office of Management and Budget (OMB) guidance M-05-24, and Federal Information Processing Standards Publication (FIPS PUB) Number 201 (see Appendix E Section 3 of the GCAM).

7.0 POINTS OF CONTACT FOR FURTHER INFORMATION

Questions (technical, programmatic, grants management, etc.) or comments about this Appendix may be directed to:

Space Technology Research Grants Program Executive
Space Technology Mission Directorate, NASA Headquarters
hq-nstgro-call@mail.nasa.gov

An NSTGRO25 Frequently Asked Questions (FAQ) document is available and will be maintained on NSPIRES (under "Other Documents").

For assistance with NSPIRES, you may contact the NSPIRES Help Desk at nspires-help@nasaprs.com or (202) 479-9376. The Help Desk is staffed, Monday through Friday, from 8 AM to 6 PM ET.

Supplement - Program Specific Data Questions

As stated in 4.4.2.3 – Proposal, the Program Specific Data Questions are part of the NSPIRES proposal submission process. The questions, and associated answers, constitute part of the Cover Pages of a submitted proposal. NSTGRO25 includes 33 Program Specific Data Questions; they are repeated here to facilitate the proposal preparation process. All questions must be answered for NSPIRES to accept the proposal. This Supplement is for informational purposes only. If this Supplement and an NSPIRES Program Specific Data Question differ, the NSPIRES Program Specific Data Question takes precedence. Actual pull-down menus and text boxes are not included in this Supplement.

Selection of Strategic Framework Envisioned Future: *Questions 1 and 2 allow you to specify and explain the Strategic Framework Envisioned Future your proposed space technology is primarily intended to impact. Question 2 requires an explanation for your selection in response to Question 1. See 1.3 – Research Areas for complete details. Your input may be considered during the proposal evaluation process.*

Recall the following Envisioned Futures (grouped by THRUST): GO - Space Nuclear Propulsion; Cryogenic Fluid Management; Advanced Propulsion; LAND - Precision Landing and Hazard Avoidance; Entry, Descent, and Landing to Enable Planetary Science Missions; Enable Lunar/Mars Global Access and ~20t Payloads; LIVE - Advanced Habitation Systems (AHS); In-Situ Resource Utilization (ISRU); Power and Energy Storage; Thermal Management Systems; Excavation, Construction, and Outfitting (ECO); Surface Systems; EXPLORE - Advanced Avionics; Advanced Manufacturing; Autonomous Systems and Robotics (ASR); Communications and Navigation; In-space Servicing, Assembly, and Manufacturing (ISAM) and Rendezvous, Proximity Operations, and Capture (RPOC); Small Spacecraft Technologies; Sensors, Instruments, and Observatories.

1. Please select the Space Technology Strategic Framework Envisioned Future that your proposed research is intended to impact.
   Please select via pull-down menu.

2. Please explain your response to Question 1. Note: Project Narratives must be specifically focused on low TRL space technology; Project Narratives which are focused on science investigations to inform technology development or the use of existing technologies to conduct science investigations will be deemed non-compliant and not be submitted for review. If applicable, you may include discussion of other relevant Envisioned Futures. (you can enter up to 4000 characters)
   Please type your answer in the text box.

3. If applicable, you may also include discussion of how your proposed research is a fundamental materials technology which is cross-cutting to multiple Envisioned Futures. Otherwise, please enter N/A. (you can enter up to 4000 characters)
   Please type your answer in the text box.

4. Has something similar been proposed to another NASA solicitation in the last 2 years? If yes, provide specific solicitation information and whether or not the proposal was successful. (you can enter up to 4000 characters)
   Please type your answer in the text box.

5. Please briefly provide Project Narrative-relevant current and pending support of the faculty advisor (proposal PI). If this proposal is not being submitted by an accredited U.S. university,

please enter N/A. (you can enter up to 4000 characters)
Please type your answer in the text box.

Name, Eligibility, and Years of Support Sought

6. Student's first name
Please type your answer in the text box.

7. Student's last name
Please type your answer in the text box.

8. Are you a U.S. citizen, U.S. national, or permanent resident alien of the U.S.?
   - o I am a U.S. citizen and/or U.S. national
   - o I am a permanent resident alien of the U.S.
   - o I am neither a U.S. citizen nor a permanent resident alien of the U.S.

9. If you are not a U.S. citizen, please provide your country of citizenship.
Please select via pull-down menu.

10. Are you the current or past recipient of a federal graduate fellowship or scholarship?
   - o Yes
   - o No

11. If your answer to Question 10 is Yes, please identify the graduate fellowship or scholarship (name of sponsoring federal agency and name of fellowship) and provide the number of years of support that you will have received prior to the fall 2025 term. If your answer to Question 10 is No, type N/A. (you can enter up to 1000 characters)
Please type your answer in the text box.

12. Are you currently part of or have you applied to the NASA Pathways Program?
   - o I have been accepted into the Pathways Program
   - o I have applied to the Pathways Program but have not been notified
   - o No (i.e., I have never applied or my application was unsuccessful)

13. If your answer to Question 12 is one of the first two options, please provide detailed information. In addition, if your answer to Question 12 is the first option, please explain how your proposed Project Narrative is distinct from your Pathways assignment(s). If your answer to Question 12 is No, please type N/A. Please note that the earliest a Pathways tour can be scheduled will be the fall 2026 semester. (you can enter up to 4000 characters)
Please type your answer in the text box.

14. In general, proposals submitted in response to the NSTGRO25 solicitation must be submitted by an accredited U.S. university. Exceptions are discussed in 3.0 – Eligibility Information and 4.4.1 – Electronic Proposal Submission of the solicitation. If you requested proposal submission by the NSTGRO Proposal Submission Office, please provide justification. If a university is submitting your proposal, type N/A. (you can enter up to 1000 characters)
Please type your answer in the text box.

15. Did you propose to a previous NASA Space Technology Graduate Research Opportunities / NASA Space Technology Research Fellowships solicitation? If so, please select the appropriate solicitation(s) from the list below. A prospective NSTGRO recipient requesting doctoral support under NSTGRO25 will not be eligible if they have requested doctoral support under two previous NSTGRO (and/or NSTRF) solicitations, unless they were an undergraduate student at the time of a previous proposal submission (see 3.0 – Eligibility Information). If you never requested support under NSTGRO (or NSTRF), select N/A.
Please select all that apply.
    - o N/A
    - o NSTGRO24 – NASA Space Technology Graduate Research Opportunities – Fall 2024
    - o NSTGRO23 – NASA Space Technology Graduate Research Opportunities – Fall 2023
    - o NSTGRO22 – NASA Space Technology Graduate Research Opportunities – Fall 2022
    - o NSTGRO21 – NASA Space Technology Graduate Research Opportunities – Fall 2021
    - o NSTGRO20 or earlier NSTRF solicitation

16. Are you currently an undergraduate student?
    - o Yes
    - o No

17. Month that your bachelor's degree was, or is expected to be, received.
Please select via pull-down menu.

18. Year that your bachelor's degree was, or is expected to be, received.
Please select via pull-down menu.

19. Month that you began graduate studies. Select N/A if you are currently an undergraduate or have not yet commenced technical graduate studies.
Please select via pull-down menu.

20. Year that you began graduate studies. Select N/A if you are currently an undergraduate or have not yet commenced technical graduate studies.
Please select via pull-down menu.

21. Degree which you are seeking under this solicitation. Students who have the goal of receiving a doctoral degree should select "Doctoral" below even if their university requires them to obtain a master's degree first. The proposal submitted must cover the entire intended period of study with a single, continuous research plan.
    - o Master's
    - o Doctoral

22. Total number of years of NSTGRO support sought (partial years are permitted). Please read 2.0 – Award Information of the NSTGRO25 solicitation carefully for clarification and special considerations for master's and doctoral support.
Please select via pull-down menu. Select the number that most closely matches your plans.

23. Please select your eligibility profile. Please see the profile definitions provided in 3.0 – Eligibility Information of the NSTGRO25 solicitation.
    - o Master's Support

- Doctoral Support 1
- Doctoral Support 2
- Doctoral Support 3

24. Provide a clear explanation of how you meet the requirements of the profile you declared in Question 23. In your justification, also point to the data in your proposal (cite specific details) which substantiate your justification. (you can enter up to 4000 characters)
Please type your answer in the text box.

25. Month that you expect to receive the degree for which you are seeking support under NSTGRO25.
Please select via pull-down menu.

26. Year that you expect to receive the degree for which you are seeking support under NSTGRO25.
Please select via pull-down menu.

Past and current academic departments and universities

27. Institution from which you received your undergraduate degree. If you are currently an undergraduate student, please enter the institution you are attending.
Please type your answer in the text box.

28. Undergraduate academic department
Please type your answer in the text box.

29. Graduate academic department
Please type your current graduate degree academic department in the text box. If you are currently an undergraduate student or not yet enrolled in graduate school, type N/A for your answer.

Past and current academic departments and universities

The NSTGRO25 solicitation requires you to discuss in the Personal Statement your choice of academic institution(s). If you are currently an undergraduate and do not yet know your fall 2025 graduate university or you are not currently enrolled as an undergraduate or graduate student and do not yet know your fall 2025 graduate university, Questions 30-32 allow you to specify the university or universities that you are considering for the degree program for which you are requesting support. If you are already enrolled as a graduate student and you will continue to pursue your graduate studies at your current university in the fall of 2025, reply N/A to all three questions.

30. The name of your first choice academic institution
Please type your answer in the text box.

31. The name of an alternate choice academic institution
Please type your answer in the text box.

32. The name of a second alternate choice academic institution
Please type your answer in the text box.

Visiting Technologist Experiences

The NSTGRO25 solicitation requires you to discuss in the Project Narrative why the yearly visiting technologist experience would be an important component of your plans. Because experts in a specific technical area are typically located at multiple NASA Centers, multi-year Fellows are permitted to conduct visiting technologist experiences at multiple locations. Visiting technologist experiences are coordinated with the NASA research collaborator and approved by the Program.

33. Optional: You may, but are not required to, indicate which NASA Center(s) you are considering for the yearly visiting technologist experiences.
    Please select all that apply (at least one must be selected).
    - o Ames Research Center
    - o Armstrong Flight Research Center
    - o Glenn Research Center
    - o Goddard Space Flight Center
    - o Jet Propulsion Laboratory
    - o Johnson Space Center
    - o Kennedy Space Center
    - o Langley Research Center
    - o Marshall Space Flight Center
    - o Stennis Space Center
    - o To be determined