

F31 General Information

The information included in this document is from three sources: the SF424, the Notice of Funding Opportunity (NOFO) (PA-25-422), and the Fellowship Workshop presented January 31, 2025.

All PD(s)/PI(s) must have an eRA Commons account. PD(s)/PI(s) should work with their organizational officials to either create a new account or to affiliate their existing account with the applicant organization in eRA Commons. If you do not have an eRA Commons User Name, contact Proposal Support Health Science (formerly Research Administration) or Sponsored Projects. Obtaining an eRA Commons account can take up to 2 weeks.

All PD(s)/PI(s) must be registered with ORCID (<https://orcid.org/>). If you do not have an ORCID ID, you can set this up yourself at <https://libguides.library.arizona.edu/c.php?g=1006468&p=7308092>. The personal profile associated with your eRA Commons account must be linked to a valid ORCID ID. The personal profile associated with the PD(s)/PI(s) eRA Commons account must be linked to a valid ORCID ID. For more information on linking an ORCID ID to an eRA Commons personal profile see the ORCID topic in our eRA Commons online help (https://era.nih.gov/erahelp/Commons/default.htm#orcid.htm%3FTocPath%3D____29)

For all **Fellowship (F)** Applications

Please note that you will be using FORMS-I. If no page limit is listed in the table below, in Section IV of the Notice of Funding Opportunity under Page Limitations, or in a related notice, you can assume the attachment does not have a limit.

Section of Application	Page Limits* (Unless the funding opportunity specifies a different limit)
Project Summary/Abstract	30 lines of text
Project Narrative	Three sentences
Introduction to Resubmission or Revision Application (when applicable)	1 page
Candidate's Goals, Preparedness, and Potential	3 pages
Training Activities and Timelines	3 pages
Research Training Project Specific Aims	1 page
Research Training Project Strategy	6 pages
Training in the Responsible Conduct of Research	1 page
Sponsor(s) Commitment	6 pages
Letters of Support from Collaborators, Contributors, and Consultants	6 pages
Applications for Concurrent Support (when applicable)	1 page
Biographical Sketch (legacy)	5 pages
Biographical Sketch Common Form & Biographical Sketch Supplement	No hard limit; length controlled through SciENcv data entry format

There are two components to the Fellowship application: the Notice of Funding Opportunity (NOFO) and the forms package (SF424). You must follow the instructions for BOTH. The Notice of

Funding Opportunity will include specific instructions and the forms needed for your application submission. Remember that the Notice of Funding Opportunity instructions always supersede these application instructions.

You will have less to do with the SF424 as Proposal Support Health Science will complete the package. You will supply the information needed and the sections that will be uploaded.

The Notice of Funding Opportunity will list the NIH Institutes and Centers accepting applications.

Format Information

Text in your attachments must follow these minimum requirements:

- **Font size:** Must be 11 points or larger. Smaller text in graphics, figures, graphs, diagrams, and charts is acceptable, as long as it is legible when the page is viewed at 100%.
 - Some PDF conversion software reduces font size. It is important to confirm that the final PDF document complies with the font requirements.
- **Type density:** Must be no more than 15 characters per linear inch (including characters and spaces).
- **Line spacing:** Must be no more than six lines per vertical inch.
- **Text color:** No restriction. Though not required, black or other high-contrast text colors are recommended since they print well and are legible to the largest audience.
- **Fonts:** The following fonts are recommended, although other fonts (both serif and non-serif) are acceptable if they meet the above requirements.
 - Arial
 - Georgia
 - Helvetica
 - Palatino Linotype
- **Margins:** Provide at least one-half inch margins ($\frac{1}{2}$ ") — top, bottom, left, and right — for all pages. No applicant-supplied information can appear in the margins.
Use paper (page) size no larger than *standard letter paper size (8 1/2" x 11")*.

TIP:

With changes to the Fellowship application there is more emphasis on training potential and less emphasis on the sponsor.

Objectives to focus the reviewer on key assessments: preparedness and potential, the research training plan and the commitment to the candidate.

At the Workshop several presenters stated that the Biosketch is where they start; it is the first thing they read. It sets the stage for their review of the rest of the application. Spend time preparing this, concentrating on the Personal Statement.

Descriptive Title of Applicant's Project

Enter a brief descriptive title of the project. The descriptive title is **limited to 200 characters**, including spaces and punctuation.

New Applications: You must have a title different than any other NIH or other PHS Agency project submitted for the same application due date with the same Project Director/Principal Investigator (PD/PI).

Proposed Project Start Date:

This field is required. Enter the proposed start date of the project. The start date is an estimate and is typically at least nine months after application submission. The project period should not exceed what is allowed in the Notice of Funding Opportunity.

Proposed Project Ending Date:

This field is required. Enter the proposed ending date of the project. Give yourself enough time. It always takes longer to complete things than originally planned.

Additional Instructions for Fellowship:

Individual fellowship applicants **must include a cover letter** that contains a list of referees (including name, departmental affiliation, and institution).

Project Summary/Abstract

The project summary is a succinct and accurate description of the proposed work and should be able to stand on its own (separate from the application). This section should be informative to other persons working in the same or related fields and understandable to a scientifically literate reader. Avoid both descriptions of past accomplishments and the use of the first person. Be concise.

Format:

This section is **limited to 30 lines of text** and must follow the required font and margin specifications. A summary that exceeds the 30-line limit will be flagged as an error by the Agency upon submission. Use of hyperlinks and URLs in this section is not allowed unless specified in the Notice of Funding Opportunity.

Content:

State the application's broad, long-term objectives and specific aims, making reference to the health relatedness of the project (i.e., relevance to the mission of the agency). Describe the research design and methods for achieving the stated goals. Be sure that the project summary reflects the key focus of the proposed project so that the application can be appropriately categorized.

Do not include proprietary, confidential information or trade secrets in the project summary. If the application is funded, the project summary will be entered into an NIH database and made available on the NIH Research Portfolio Online Reporting Tool (RePORT) and will become public information.

Additional Instructions for Fellowship:

In addition to summarizing the research project to be conducted under the fellowship award, describe the fellowship training plan and the environment in which the research training will take place.

Project Narrative**Content:**

Describe the relevance of this research to public health in, at most, **three sentences**. For example, NIH applicants can describe how, in the short or long term, the research would contribute to

fundamental knowledge about the nature and behavior of living systems and / or the application of that knowledge to enhance health, lengthen life, and reduce illness and disability. Use of hyperlinks and URLs in this section is not allowed unless specified in the Notice of Funding Opportunity. If the application is funded, this public health relevance statement will be combined with the project summary (above) and will become public information.

Bibliography & References Cited

The “Bibliography & References Cited” attachment is required unless otherwise noted in the Notice of Funding Opportunity.

Format:

Use of hyperlinks and URLs in this section is not allowed unless specified in the Notice of Funding Opportunity.

Content:

See the following instructions for which references to include in the “Bibliography and References Cited” attachment.

Additional Instructions for Fellowship:

The “Bibliography & References Cited” attachment should include any references cited in F.430 - PHS Fellowship Supplemental Form and in the F.500 - PHS Human Subjects and Clinical Trials Information form.

When citing articles that fall under the Public Access Policy, were authored or co-authored by the applicant, and arose from NIH support, provide the NIH Manuscript Submission reference number (e.g., NIHMS97531) or the PubMed Central (PMC) reference number (e.g., PMCID234567) for each article. If the PMCID is not yet available because the Journal submits articles directly to PMC on behalf of their authors, indicate “PMC Journal – In Process.” NIH maintains a list of such journals.

Citations that are not covered by the Public Access Policy, but are publicly available in a free, online format may include URLs or PubMed ID (PMID) numbers along with the full reference. Active hyperlinks in this section are not allowed. The references should be limited to relevant and current literature. While there is not a page limitation, it is important to be concise and to select only those literature references pertinent to the proposed research.

You are allowed to cite interim research products. Note: interim research products have specific citation requirements.

Facilities & Other Resources

Format:

The “Facilities & Other Resources” attachment is required unless otherwise specified in the Notice of Funding Opportunity. Use of URLs and hyperlinks in this section is not allowed unless specified in the Notice of Funding Opportunity.

Content:

Describe how the scientific environment in which the research will be done contributes to the probability of success (e.g., institutional support, physical resources, and intellectual rapport). In describing the scientific environment in which the work will be done, discuss ways in which the proposed studies will benefit from features of the scientific environment or from unique subject populations or how studies will employ useful collaborative arrangements.

If there are multiple performance sites, describe the resources available at each site.

When working with biohazards and any other potentially dangerous substances, describe any special facilities and measures implemented to mitigate threats to human health and the environment. **Note: Information about select agents must be described in the Research Plan, Select Agent Research.**

Additional Instructions for Fellowship:

Include a description of the organizational scientific and educational facilities and resources necessary and accessible to the fellowship candidate to complete the proposed research training plan. This section may include text derived from organizational sources but should be limited to a description of the facilities and resources needed for the proposed research training plan and not a general description of facilities and resources at the applicant organization.

Equipment

The “Equipment” attachment is required.

Format:

Attach this information as a PDF file. Use of URLs and hyperlinks in this section is not allowed unless specified by the Notice of Funding Opportunity.

Content:

List major items of equipment already available for this project and, if appropriate, identify the equipment's location and pertinent capabilities.

Candidate Section

2. Goals, Preparedness and Potential

This is **limited to 3 pages**.

Use of hyperlinks and URLs is not allowed unless specified in the Notice of Funding Opportunity.

Content:

Organize the Candidate's Goals, Preparedness, and Potential for the Research Training Proposal in the specified order and use the instructions provided below. Start each section with the appropriate heading – Overall Training Goals, Candidate's Preparedness, Candidate Self-Assessment, and Scientific Perspective. Candidates are expected to write the application, including the research training project section. However, the sponsor should review drafts and provide constructive feedback to the candidate throughout the application process.

A. Overall Training Goals

Candidates should describe the goals for the proposed research training plan and the long-term goals for a career in biomedical research workforce. Relate the fellowship goals to the long-term career goals. Candidates should describe their motivation for pursuing a career in the biomedical research workforce.

B. Candidate's Preparedness

This section provides information regarding the educational, scientific, and professional experiences that prepare the candidate for the proposed research training plan. Note: information listed in the candidate's Biographical Sketch Common Form and NIH Biographical Sketch Supplement may be expanded upon, but not simply duplicated, in this section. The candidate should address the following:

- How relevant activities and experiences contributed to the candidate's scientific development and preparation for the current research training plan. Examples may include coursework, research experiences, conference attendance, internships, and employment.
- Any additional activities and experiences that demonstrate an interest and commitment to a career in the biomedical research workforce. Examples may include seeking out opportunities for research skill development or engaging in leadership, service, teaching, or outreach activities.

C. Candidate's Self-Assessment

The purpose of this self-assessment is to provide an opportunity for the candidate to define their current characteristics (such as relevant skills, abilities, traits or attitudes) and areas to develop that are likely to contribute most significantly to success in the proposed research training plan and career path. For example, the candidate may include but is not limited to describing technical (techniques or technical methods, quantitative/computational approaches), operational (practices that promote rigorous and reproducible science, research safety, animal, or human welfare) or professional (management, leadership, communication, teamwork) skills. The candidate should describe:

- Two to four current characteristics that are likely to contribute to achieving the research training.
- Two to four specific areas of development during the fellowship to attain the stated research training and career goals.

D. Scientific Perspective

This section is intended to provide information about the candidate's potential to think about and express ideas within a scientific field. In this section, candidates should explain the following:

- Why this field of science is important and the ways the chosen research training project will advance the field.
- A broader, unresolved scientific question in the chosen scientific field, the importance of the problem, and the ways biomedical research might advance the scientific field.

TIPS FOR WRITING THIS SECTION

- ✓ **Use the EXACT headings** for each section
- ✓ **Write in the first person...** "I, my"
- ✓ **Make it personal** – this is the place where reviewers will get to know YOU
- ✓ **Write in 3's...** list the top three things you want them to know – *exhaustive lists lose the reader*

- ✓ **Use words that build confidence** in the reviewer about skills sets attained, e.g., *“developed expertise”, “became proficient”*
- ✓ **BE SPECIFIC!** – *don’t leave the reviewer wondering about a detail*

Research Training Plan

3. Training Activities and Timeline

This is **limited to 3 pages**.

Use of hyperlinks and URLs is not allowed unless specified in the Notice of Funding Opportunity.

Content:

The research training plan activities should be individually tailored and well-integrated. The planned activities should address the candidate’s goals and identified areas for development. The application should describe the collaborative process between the candidate and the sponsor(s) in the development, writing, review, and editing of the research training plan, including the research training project aims and strategy.

- Describe, by year, the planned activities (coursework, professional development, research training project, mentoring, clinical activities, etc.) during the proposed award. Note that the Research Training Project Strategy will be detailed in a separate section described below. Estimate the percentage of time to be devoted to each activity. The percentage should total 100 for each year.
- Explain how the training activities will develop the areas defined in the self-assessment section and help to meet the fellowship goals.
- Provide specific examples of how the proposed research training will facilitate the transition to the next career stage.
- Describe why the Sponsor(s), collaborators, and research training environment are appropriate for the proposed research training plan. Candidates should expand upon, but not duplicate information found in the Facilities and Other Resources section or in the Sponsor(s) section describing the Research Training Environment.
 - The research training is expected to broaden the candidate's perspective, opportunities, and networks. Therefore, postdoctoral candidates requesting training at their doctorate organization or senior fellowship candidates requesting training at their current organization must explain why further training at that organization would be valuable.
 - If the candidate is proposing a research training experience at a foreign institution, describe how the foreign institution and sponsor offer special opportunities for training that are not currently available in the United States. Key factors in the selection of a foreign institution should be described. The need for and level of proficiency in reading, speaking, and comprehending the foreign language should be addressed.

Note: Detailed timelines of research training activities involving animals, human subjects, or clinical trials are requested in other sections of the fellowship application and should not be included here. The timeline provided here should be distinct from the Study Timeline in the PHS Human Subjects and Clinical Trials Information form.

Research Training Project – Aims and Strategy

A Research Training Project Strategy is required for all types of fellowship awards. Candidates should relate the proposed research training project to the career goals and explain the relationship between the candidate's research training project and the sponsor's ongoing research program.

The Research Training Project section is expected to be tailored to the experience level of the candidate and to allow for the development of the necessary skills for further career advancement. The research training project should be achievable within the requested funding period.

For most types of applications, the Research Training Project should include the following:

- Specific aims and objectives
- Methods, approaches, and techniques for each aim and objective.
- Discussion of possible challenges and how they will be managed.
- Alternative approaches that might be tried if the initial approaches do not work.

Candidates should propose a rigorous research training project based on a strong scientific foundation. Fellowship applications do not require preliminary data or extensive experimental detail; however, candidates should provide sufficient scientific and technical details for reviewers to understand and assess the merits of the scientific foundation and research training project.

4. Research Training Project — Specific Aims

This is **limited to 1 page**.

Format:

Specific Aims attachment that includes graphics will generate a warning by the Agency upon submission.

Use of hyperlinks and URLs is not allowed unless specified in the Notice of Funding Opportunity.

Content:

State concisely the broader goals of the proposed research training project (for example, to test a stated hypothesis, create a novel design, solve a specific problem, challenge an existing paradigm or clinical practice, address a barrier to progress in the field, or develop new technology).

List succinctly the specific objectives or aims of the research training project to be completed by the candidate during the funding period. Summarize the expected outcome(s). Include the potential impact that the results of the proposed research training project will have on the research field(s) involved.

Tips From Workshop: In the first paragraph, start broad, introduce your research. Capture the audience's attention.

State what is known. State the gaps in the field and what needs to be done about it.

In the second paragraph state your proposed solution; the what, why, and how. State the long-term goal. State the hypothesis and rationale.

For aims 2-3, give each an active title, avoid passive language. The aims should be related, but independent. Include a sub-hypothesis, if appropriate. Give a brief experimental approach.

In the summary paragraph, explain how this is innovative, the expected outcomes, and the impact. Connect the aims to your training and career trajectory.

Aims page 4-paragraph option:

Paragraph 1 Introduction – the broader goals of the project (test a hypothesis, solve problem change a paradigm, address a barrier)

Paragraph 2 Rationale – why you are researching this (data illustrating the issue)

Paragraph 3 Specific Aims – the objectives of the research training project

Paragraph 4 Outcomes – the impact and significant this will have on the field

This may be the only page fully read by some members of the Review Panel.

It is often considered the “make or break” element of a proposal.

It should tell the whole story of your application.

REMEMBER: There are 2 review audiences: those who are assigned to read your whole application and those who may not have read the whole thing.

An effective Aims page makes the case that:

- ✓ the research is important
- ✓ the methods are likely to be successful
- ✓ the applicant is the right person and team to do the project

5. Research Training Project — Strategy

This is **limited to 6 pages**.

Format:

Although multiple sections of information are required in the Research Training Project Strategy as detailed below, the page limit applies to the entirety of the single attachment.

Use of hyperlinks and URLs is not allowed unless specified in the Notice of Funding Opportunity.

Content:

Although the fellowship research training project may fall within the larger funded research program of the sponsor(s), the research training project strategy must be written in the candidate’s own words. Using language written by others is not allowed in this section because the application is intended to provide information regarding the candidate’s understanding of the research training project and ability to communicate the scientific rationale and approaches. Additionally, this section will provide information to evaluate the training potential of the research training project. Candidates may solicit feedback and incorporate suggestions from the sponsor(s) and other scientists into the research training project strategy, but the text must be written by the candidate. Organize the Research Training Project Strategy in the specified order and use the instructions provided below, unless otherwise specified in the Notice of Funding Opportunity. Start each section with the appropriate section heading – for example, Scientific Foundation and Rationale, and Approach. Cite published experimental details in the Research Strategy and provide the full reference in F.220 - R&R Other Project Information Form, Bibliography and References Cited.

Note for Applications Proposing the Involvement of Human Subjects and/or Clinical Trials:

Use the Research Training Project Strategy section to discuss the overall strategy, methodology, and analyses of your proposed research, but do not duplicate information collected in the PHS Human Subjects and Clinical Trials Information form.

The PHS Human Subjects and Clinical Trials Information form will capture detailed study information, including eligibility criteria; inclusion of women, racial and / or ethnic minorities, and individuals across the lifespan; and protection and monitoring plans.

Candidates are encouraged to refer to information in the PHS Human Subjects and Clinical Trials Information form as appropriate in your discussion (e.g., see Question 2.4 Inclusion of Women and Racial and / or Ethnic Minorities).

Note for Candidates with Multiple Specific Aims: Candidates may address the Significance and Approach either for each Specific Aim individually or for all of the Specific Aims collectively.

1. Scientific Foundation and Rationale

- Provide the context for the proposed research training project. Include information on published and unpublished findings serving as the scientific foundation for the proposed research training project. Describe the strengths and weaknesses in the rigor of the prior research that serves as the key support for the proposed project.
- Describe the rationale for the research training project, including unaddressed areas for research and why this area of research is interesting and important.
- Describe how achieving the proposed research training project goals will advance biomedical research in the candidate's chosen field.

2. Approach

- Describe the overall strategy, methodology, and analyses to be used to accomplish the specific aims of the project. Describe plans to address weaknesses in the rigor of the prior research that serves as the key support for the proposed project. Describe the experimental design and methods proposed and how they will achieve robust and unbiased results. Unless addressed separately in the Resource Sharing Plan attachment, include how the data will be collected, analyzed, and interpreted, as well as any resource sharing plans, as appropriate. Resources and tools for rigorous experimental design can be found at the [Enhancing Reproducibility through Rigor and Transparency](#) website.
- For trials that randomize groups or deliver interventions to groups, describe how your methods for analysis and sample size are appropriate for your plans for participant assignment and intervention delivery. These methods can include a group- or cluster-randomized trial or an individually randomized group-treatment trial. Additional information is available at the [Research Methods Resources](#) webpage.
- Discuss potential problems, alternative strategies, and benchmarks for success anticipated to achieve the aims.
- If the project is in the early stages of development, describe any strategy to establish feasibility, and address the management of any high risk aspects of the proposed work.
- Explain how relevant biological variables, such as sex, are factored into research designs and analyses for studies in vertebrate animals and humans. For example, strong justification from the scientific literature, preliminary data, or other relevant considerations,

must be provided for applications proposing to study only one sex. Refer to NIH Guide Notice on [Sex as a Biological Variable in NIH-funded Research](#) for additional information.

- Point out any procedures, situations, or materials that may be hazardous to personnel and the precautions to be exercised. If applicable, a full discussion on the use of select agents should appear in the Select Agent Research attachment below.
- If research on Human Embryonic Stem Cells (hESCs) is proposed, but an approved cell line from the NIH [hESC Registry](#) cannot be chosen, provide a strong justification for why an appropriate cell line cannot be chosen from the registry at this time.
- If you are proposing to gain [clinical trial research experience](#), briefly describe your role on the clinical trial.

Tips from the Workshop:

- ✓ Try to tie your methodology (the how) back to the potential outcome(s) to remind the reviewer
- ✓ Don't deeply explain proposed tasks that are standard in the field. This takes up space and wears out the reader.
- ✓ Have your sponsor/mentor review your design as early as possible to avoid extensive re-writing.

7. Training in the Responsible Conduct of Research

This is **limited to 1 page**.

Use of hyperlinks and URLs is not allowed unless specified in the Notice of Funding Opportunity.

Content:

The plan must address the five required instructional components outlined in the NIH Policy on Instruction in the Responsible Conduct of Research (RCR), as more fully described in the [NIH Grants Policy Statement, Section 11.2.3.4: Responsible Conduct of Research](#):

1. **Format:** Describe the required format of instruction (i.e., face-to-face lectures, coursework, and/or real-time discussion groups). A plan with only on-line instruction is not acceptable.
2. **Subject Matter:** Describe the breadth of subject matter (e.g., conflict of interest, authorship, data management, human subjects and animal use, laboratory safety, research misconduct, and research ethics).
3. **Faculty Participation:** Describe the role of the sponsor/mentor(s) and other faculty involvement in the instruction.
4. **Duration of Instruction:** Describe the total number of contact hours of instruction, taking into consideration the duration of the program.
5. **Frequency of Instruction:** Instruction must occur during each career stage and at least once every four years. Document any prior instruction during the candidate's current career stage, including the inclusive dates instruction was last completed.

8. Sponsor(s) Commitment

This is **limited to 6 pages**.

The sponsor and each co-sponsor must provide statements as described below.

Format:

The Sponsor and Co-Sponsor Statements must be appended together and uploaded as a single PDF file. Use of hyperlinks and URLs is not allowed unless specified in the Notice of Funding Opportunity.

Cover Letter

Individual fellowship applicants must include a cover letter that contains a list of referees (including name, departmental affiliation, and institution).

The letter should contain any of the following information, as applicable:

1. Application title.
2. Title of Notice of Funding Opportunity (PA or RFA).
3. List of referees (including name, departmental affiliation, and institution).
4. Statement that you have attached any required agency approval documentation for the type of application submitted. It is recommended that you include the official communication from an NIH official as part of your cover letter attachment.
5. When intending to submit a video as part of the application, the cover letter must include information about the intent to submit it; if this is not done, the video will not be accepted.
6. Include a statement in the cover letter if the proposed studies will generate large-scale human or non-human genomic data as detailed in the NIH Genomic Data Sharing Policy
7. Include a statement in the cover letter if the proposed studies involve human fetal tissue obtained from elective abortions (HFT), regardless of whether or not Human Subjects are involved and/or there are costs associated with the HFT.

Core Review Criteria

The **Overall Impact Score** typically encompasses the elements of the core review and reflects the reviewer's assessment of the likelihood for the candidate to achieve training goals and complete impactful research toward long-term career goals.

Candidate

Is the candidate qualified, available and well-suited to the training/career?

Career development plan/training goals

Are the goals feasible and are training plans adequate to achieve them?

Research Plan

Is the research feasible and will it advance the field?

Mentor(s), Collaborator(s), Consultants

Is there adequate faculty support to guide the applicant?

Environment and Institutional Commitment

Are the stated resources adequate to support the candidate's training/career goals?

NRSA individual fellowship applications receive a secondary level of review by Institute/Center staff

Second review criteria include:

- Scientific Review Group's recommendation concerning the overall merit of the application
- Relevance of the application to the Institute/Center's research training priorities and program balance

- Availability of funds

Major consideration is given to the applicant's:

- Potential for a productive career
- Need for the proposed training
- Degree to which the research training proposed, the sponsor, and the environment, will satisfy those needs

Common Pitfalls

- Lack of clarity
- Not following formatting instructions
- Lack of experience/expertise
- High-risk project with little rationale
- Not addressing potential pitfalls/alternatives
- Not emphasizing career trajectory
- Lack of front-end planning