

## 4. Research Strategy

### Who must complete the "Research Strategy" attachment:

The "Research Strategy" attachment is required.

### Format:

Follow the page limits for the Research Strategy in the [NIH Table of Page Limits](#) unless otherwise specified in the FOA. Although multiple sections of information are required in the Research Strategy as detailed below, the page limit applies to the entirety of the single Research Strategy attachment.

Attach this information as a PDF file. See NIH's [Format Attachments](#) page.

### Content:

Organize the Research Strategy in the specified order and use the instructions provided below, unless otherwise specified in the FOA. Start each section with the appropriate section heading – Significance, Innovation, 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](#).

#### 1. Significance

- Explain the importance of the problem or critical barrier to progress that the proposed project addresses.
- Explain how the proposed project will improve scientific knowledge, technical capability, and/or clinical practice in one or more broad fields.
- Describe how the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field will be changed if the proposed aims are achieved.

#### 2. Innovation

- Fellowship applicants should not include an Innovation section except in the unusual circumstance where it is specified in the FOA.

#### 3. Approach

- Describe the overall strategy, methodology, and analyses to be used to accomplish the specific aims of the project. 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.
- 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.
- Point out any procedures, situations, or materials that may be hazardous to personnel and the precautions to be exercised. 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 have multiple Specific Aims, you may address Significance, Innovation, and Approach either for each Specific Aim individually or for all of the Specific Aims collectively.

**As applicable, also include the following information as part of the Research Strategy, keeping within the three sections (Significance, Innovation, and Approach) listed above.**

**Preliminary Studies for New Applications:**

For new applications, include information on preliminary studies (including data collected by others in the lab), if any. Discuss the applicant's preliminary studies, data, and/or experience pertinent to this application.

**Progress Report for Renewal Applications:**

Note that the Progress Report falls within the Research Strategy and is therefore included in the page limits for the Research Strategy.

Renewal applications for individual fellowships are rare. You should consult with your program official before preparing such an application. If you are submitting a renewal application, provide a Progress Report. Provide the beginning and ending dates for the period covered since the last competitive review. In the Progress Report, you should:

- Summarize the specific aims of the previous project period and the importance of the findings, and emphasize the progress made toward their achievement.
- Explain any significant changes to the specific aims and any new directions, including changes resulting from significant budget reductions.
- Discuss previous participant enrollment (e.g., recruitment, retention, inclusion of women, minorities, children, etc.) for any studies meeting the NIH Glossary definition for [clinical research](#), particularly if relevant to studies proposed in the renewal application. You should not submit a PHS Inclusion Enrollment Report unless the enrollment is part of new or ongoing studies in the renewal application.

Do not include a list of publications, manuscripts accepted for publication, patents, or other printed materials in the Progress Report. That information will be included in the "Progress Report Publication List" attachment.

## 5. Respective Contributions

**Who must complete the "Respective Contributions" attachment:**

The "Respective Contributions" attachment is required.

**Format:**

Follow the page limits for Respective Contributions in the [NIH Table of Page Limits](#) unless otherwise specified in the FOA.

Attach this information as a PDF file. See NIH's [Format Attachments](#) page.

**Content:**

Describe the collaborative process between you and your sponsor/co-sponsor(s) in the development, review, and editing of this Research Training Plan. Also discuss your respective