

# Student Summer Research Training Program

## Research Proposal Instructions

The proposed research and training experience should be described in detail, using the following outline and guidelines. Format the document using the bold print headings (see below). Submit two double-spaced, typed copies with one-inch margins to **Ms. Noemi Hinojosa in the Dental Dean's Office, Room 4.320R**. The total proposal, excluding the Appendix **cannot exceed eight pages**. Keep in mind that you must be able to complete the project during the summer (approximately a 6-week period). Therefore, keep the project **focused** and **specific**; don't try to be too ambitious. It is anticipated that you will submit an abstract of your research in the Fall for presentation at a national meeting. Most students present their research at the American Association of Dental Research Meeting (AADR) during spring break. These abstracts are usually due mid-September for the meeting held around March.

### I. Research Protocol

#### A. Introduction: (1-2 pages)

1. **Research problem:** State the nature and significance of the problem to be investigated.
2. **Hypothesis:** Present concisely the hypothesis to be tested with regard to the problem identified above.
3. **Specific Aims:** State the step-by-step research plan to investigate or test the hypothesis.
4. **Background:** Review the most significant previous work and describe the current status of research in this field with references.

B. **Preliminary Data:** (optional 1 page) Include any preliminary data related to this project that might impact the experimental feasibility. If you previously worked with your mentor last summer, relevant findings to the current application should be presented. If no studies have been performed, indicate not applicable.

C. **Methods:** (3-4 pages) In this section, describe what you intend to do to answer the question related to each specific aim. Give details of the research plan (i.e., a description of the experiments proposed, the methods, species of animals to be used, techniques planned, kind of data expected to be obtained, the means by which the data will be collected, and the plans for statistical analysis). Describe the experiments or observations in the sequence in which you plan to carry them out as outlined in the specific aims.

- D. **Budget:** (0.5 page) Give projected costs of supplies, special reagents, animals or other expenses to be incurred in the proposed study. Indicate the source of funds to be used for this project. It is expected that research supplies will be provided by your mentor's NIH grants, departmental funds, industrial sources, etc.
- E. **IRB and Animal Usage Approvals:** If the experimented protocol involves human or animal subjects, approval must be obtained from the appropriate committee or board before you begin the research. Approval may take several months; however, your proposal for the fellowship can be submitted before approval is obtained by submitting a "*pending approval*" letter. If you will be working on a project for which your mentor already has approval, your mentor will need to send a letter to the IRB or the Animal Use Committee indicating that you will be involved in the study. Submit a copy of your mentor's IRB or Animal Use Committee Approval letter with the application. If humans or animals are to be used, clearly indicate this on the application.
- F. **References:** (1-3 pages) Follow the format used by the Journal of Dental Research. Arrange the citations in alphabetical order by first author's last name. *BE CONSISTENT* in the way you present the citations.
- G. **Appendix:** This section is optional. It should include supporting materials, such as data collection forms, larger copies of figures and relevant publications.
- II. **Research Training Activities** (1-2 paragraphs)  
Aside from completing a specific project of your own, it is anticipated that you will work closely with your mentor on a variety of other research-related activities. List the types of training experiences that you are to receive (Example: attend lab meetings with Dr. Biotech; learn basic computer skills; attend departmental meetings; learn specific research laboratory techniques, etc.).
- III. **Mentor Participation in Preparation of Proposal** (letter)  
Enclose a separate page prepared and signed by your mentor, which outlines the process of preparation of this application. This page should also describe the extent of involvement of you, the student, and your mentor in the preparation of the final application.