PROPOSAL TEMPLATE: High Energy Density Science (HEDS) Center Postdoctoral Fellowship

Title Page (use one full page; see example provided at the end of the template):

Descriptive Title

(A HEDS expert should be able to grasp which field you want to work on from the title)

Name, doctoral degree or degree candidacy, year of degree, department, degree granting university, and if different, current institution.
LLNL Mentor: Name, (Directorate/Division)

EXECUTIVE SUMMARY

- Provide a **2-sentence** summary of your project (approximately 60 words). This summary is important as it will be used by program managers to ensure your project fits within the funding scope. In the **first sentence**, state the goal of your proposed research (e.g., what need you plan to meet) and what you plan to do to meet that need. Please make sure that the Executive Summary is appropriate for a non-technical audience.
- In the **second sentence**, describe the potential impact of a fellowship on LLNL, HEDS research, and you.

PLAIN LANGUAGE DESCRIPTION

Provide a brief description of your proposed project (maximum of 2,000 characters). The description should include the need you plan to address (your motivation for conducting the research), your technical approach, anticipated results or deliverables, and the significance of your project, including its potential broader impact. The plain language project summary should be understandable to a scientifically or technically literate lay reader.

PROPOSAL NARRATIVE (11-point font minimum, 1-inch margins, 5 pages maximum, not including title page, references and appendices) Note that the audience for the proposal narrative is the HEDS postdoctoral fellowship review committee.

Introduction/Background:

Provide a basic but thorough introduction to your subject and project. State your overall vision and motivating rationale. Reviewers are an intelligent, yet diverse audience. All reviewers will have a background in high energy density science. However, some reviewers may not be familiar with your field, so you should include sufficient background information for your project. Avoid jargon. Briefly describe the major activities proposed, their impact and urgency, and the expected outcomes of your proposed work.

Be sure to compare the proposed work to current research being performed elsewhere to bring all reviewers up to speed on the current state of the science.

Project Plan:

Goals and Scope:

Describe your research plan, including the goals, objectives, and technical approach of your proposed work. Highlight specific areas of originality and uniqueness. Specify the technical resources necessary to execute the project.

Deliverables and Milestones:

Describe your schedule and milestones. Include activities/tasks, and timelines (Gantt chart for example). You can use figures to communicate important aspects of your proposal, such as the project timeline or evidence that the work could be successful.

Associate milestones with key deliverables that would effectively demonstrate that your milestones have been achieved. Include at least 1-2 milestones per year. Describe how you will share your deliverables with the broader scientific community. Be specific: (Bad: “Publish papers.” Good: “Publish a paper on specific topic in specific (or similar) journal.” Good: “Add data to public repository,” etc.)

Optional Gantt Chart. Specify your tasks/subtasks with your timeline. If possible, assign tasks to specific team members to demonstrate plan. One option for risk/mitigation discussions is to include an alternative schedule below the target milestones to illustrate your alternatives. Describe your milestones in the task lines.

Table 1: Example Gantt Chart with Milestones

Task	Time (in Quarters)							
	1	2	3	4	5	6	7	8
[Task 1:]								
[Milestone 1:]				★				
[Task 2:]								
[Alternative Task 2:]								

Project Impact:
Describe the broader impact of your deliverables on your disciple or technical field as well as on LLNL. Specify how your project will develop your carreer and how it will place you well to continue positively impacting high energy density science at LLNL or elsewhere after the fellowship ends. How will the fellowship impact you?

Risks and Mitigations:
List significant risks to the success of the project. Categorize the risks as high, moderate, or low and indicate mitigation strategies for each risk. Strategies could include reduction in project scope, schedule delays, alternate approach, etc. Note, shots at the National Ignition Facility and other large scale facilities are difficult to obtain. Proposals that include such shots should include fallback plans for any shots not yet granted.

Qualifications
Describe your qualifications. Highlight past work not already described in the narrative. Highlight past awards and what they mean to you. Why are you uniquely suited to perform this research? How have you shown the capacity to become a future leader in high energy density science?

Facility
Specify how your work and career will benefit from being at LLNL. What can we provide that will optimize your chances of success?

Exit Plan
State your career goals for where you would like to be after the fellowship ends or if you are unsure, state what information will help you decide.

Summary (1-2 paragraph summary of the project, projected outcomes, and impacts)

---------- End of Page Limit ----------

References Cited (Not counted against page limits)
Use any citation style appropriate for your field. Be consistent.

Appendix 1: Past collaborations with or internships at LLNL (Maximum of 0.5 pages).
List LLNL collaborations or internships. Give the name(s) of the main people you interacted with and a **one sentence** summary of each project.

Appendix 2: Conflicts of interest (No page limit).
List all LLNL staff who have been or are mentors, mentees, reference letter writers, co-authors, family members, significant others, close friends, and business associates. For co-authors on papers involving large teams, list only those whom you worked closely with.

Appendix 3: Summary slide. Paste an edited slide below.

Name, University, Department, Degree, Year

Proposal Title: <Enter title here>
LLNL Mentor: <Enter name (Directorate/Division)>
Thesis Title: <Enter title here>
Thesis Advisor(s): <Enter name(s)>

Add a relevant figure or schematic

Executive Summary:
Copy from title page of statement of interest

Publications: <Total number of refereed publications>
1st Author Publications: <number of refereed publications >
Most Notable Publication:
<title>, <journal>, <volume>, <page>, <year>, <hyperlink>

Awards:

Other Notable Information:

Leave this space blank

Example Title Page

Direct Measurement of the Zizbit Coefficient by Tachyon Interferometry

John Doe, Ph.D. candidate 2025, Physics, University of High Energy Density Science
LLNL Mentor: Jane Doe, (PLS/Physics)

Executive Summary: This project will use tachyon interferometry to measure the Zizbt coefficient and determine if the megaboz particle has pheebor or borphee chirality. This measurement will enable a predictive Zorbius theory to guide the development of new Zasote technologies for matter / anti-matter fusion systems.

Plain language Descrption: For more than two decades, efforts to develop a predictive Zorbius theory have been halted by uncertainties in the Zizbit coefficient. We propose to develop a novel tachyon interferometry array for the Large Frobozz Reactor that will enable the first-ever direct measurements of the Zizbit coefficient. This tachyon inteferomtry array will be built from newly development materials that allow dlop particles to be measured but are not impacted by angular photons from separate tachyon materials. We will assemble the tachyon interferometry in a zblob vaccum chanber and test the system by measuring known czot coefficients. Once validated, we will incorporate zylate materials and measure zizbit coefficients. We will also use quantum simulations to explore different measurement phases and angles. These measurements will allow us to finally resolve the longstanding question of whether the megaboz particle should have pheebor or borphee chirality leading to matter / anti-matter fusion systems.