2024 Innovation Seed Grant Proposal

Project Title: **Template Project Proposal**

Organization Name: **University of Pennsylvania**

Sector: SELECT ONE

Application Author and Position Title: **Dr. Gerald Lopez, Center Associate Director**

Primary User(s) and Position Title(s) at the Singh Center: **John Doe, Ph.D. Candidate**

Requested Support: **$1000**

# Instructions

Complete each section of the proposal by responding in detail to the prompts. When finished, submit this application to Dr. Lee Ozier, Singh Center Program Coordinator: [ozierd@seas.upenn.edu](mailto:ozierd@seas.upenn.edu).

# Project Summary

In 500 words or less, please describe your project. Indicate the specific milestone(s) you will achieve with this project.

# Problem Statement, Background, and Motivation

ALL APPLICANTS MUST answer the following questions:

1. What problem(s) are you trying to solve?
2. What is the impact of solving this problem?
3. How novel is the idea, and how is it useful to humanity?
4. How does the solution compare to other concepts addressing the same problem?
5. Why are you unable to perform the proposed tasks at your own institution/company?

If you are a start-up, you MUST answer the following:

1. How big is your market? What are the addressable and serviceable market sizes of the problem you are trying to solve? Can you explain the commercial viability of your idea in dollars and cents?
2. Who are your competitors, and how does your proposed technology compare?

# Technical Feasibility

In 500 words or less, ALL APPLICANTS MUST answer the following questions:

1. How technically viable is the idea? Do the tools/instrumentation required and the number of work hours proposed to make sense given the proposed solution?
2. What makes the Singh Center a suitable place to execute your project? We want to know that you’ve done your homework to understand which of the Center’s capabilities will help enable your idea.
3. What short-term success are you hoping to achieve?
4. What do you think the most significant technical challenges are, and why?
5. Have you received past funding for this or similar projects?
6. If applicable, please provide a description of the intellectual property you possess or are licensing. Remember, all participants are responsible for securing their intellectual property (IP) and confidential information. Please refrain from submitting any sensitive IP or confidential information.

**Make sure to include any figures or schematics that can help to explain what you’re trying to achieve.**

# Equipment Use and Project Timeline

For this section, ALL APPLICANTS MUST provide:

1. **Usage of Singh Equipment** and an estimation of the number of hours required to complete the project. This should include a High-level Work Breakdown Structure and Project Management Schedule that should include, but is not limited to:
   1. List of each key tools (see table below) along with a description of how each tool will be used during each quarter;
   2. Estimation of the number of hours required to complete each step of the project using each tool;
   3. Smallest feature size to be images, analyzed or fabricated;
   4. Materials to be used on the samples, such as resists, metals, and dielectrics.

| **Technology** | **Tool** | **Hourly Rate** | **Timeline** | | | | | | | | | | | | **Hrs** | **Cost [$]**  **= Hourly Rate \* Hrs** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Quarter 1 | | | Quarter 2 | | | Quarter 3 | | | Quarter 4 | | |
| Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar |
| Lithography | Elionix | 50 | 5 | 5 | 5 | 3 | 2 |  |  |  |  |  |  |  | 20 | 1000 |
| Etch | ICP | 40 | 2 | 2 | 2 | 2 | 2 |  |  |  |  |  |  |  | 10 | 400 |
| Cleanroom | QNF | 35 | 7 | 7 | 7 | 7 | 7 |  |  |  |  |  |  |  | 35 | 1225 |
|  |  |  | **Total** | | | | | | | | | | | | 30 | 1400 |

**Equipment Use and Project Timeline Instructions.**

In the *Technology* column, please indicate one of the following capabilities that will be required:

* Lithography
* Deposition
* Etching
* Backend (dicing, laser micromachining, etc.)
* TEM
* SEM
* AFM/STM

In the *Tool* column, please indicate the tool from the tools listed on [Rate List (upenn.edu)](https://nemo.nano.upenn.edu/fee_schedule/other/)

Under the *Timeline* column, indicate the estimated hours you plan to use each tool for each month.

In the *Hrs* column, indicate the total number of hours needed.

In the *Cost* column, indicate the total cost of the projected tool use. Use the academic rate listed on [Rate List (upenn.edu)](https://nemo.nano.upenn.edu/fee_schedule/other/). All ISG recipients will be billed at the academic rate when charged against the award. Overages will be charged at the appropriate rate of your organization’s sector.

# Impact of the Innovation Seed Grant Funding

ALL APPLICANTS MUST answer the following:

1. What will happen as a result of successful project execution at the Center? In other words, if you hit your proposed milestones, what happens next?
2. How would this innovation impact society?
3. How could your innovation lead to other technical breakthroughs?
4. Do you plan to seek additional funding to continue work at the Center?
5. Do you plan to commercialize your product or idea?
6. What is your timeline for your startup business or research project? Please provide details.

# Biographical Information

ALL APPLICANTS MUST emphasize past experiences (including previous funding, publications, and patents) directly related to the proposed work.

**Gerald Lopez, Ph.D.** ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

**John Doe** ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.