

SURPASS PROGRAM CALL FOR PROPOSALS

WHITEPAPER SUBMISSION GUIDE

Dated: 09/12/2023

1.0 SURPASS OVERVIEW

The SURPASS initiative is a multimillion dollar initiative that will harness the ingenuity and technical abilities of the Whiting School of Engineering and the Applied Physics Laboratory, two great divisions at one of the world's leading research universities, to tackle grand challenges by developing transformative innovations and solutions. This is an unprecedented opportunity that it will push our institutions toward new discoveries and deeper relationships.

Contact Information: Surpass@jhu.edu

Important Dates

Program Call Release	September 12, 2023
Whitepaper Submission Opens	September 12, 2023
Whitepaper Submission Closes	October 30, 2023
Notification of Whitepaper Selection	November 27, 2023
Full Proposal Submission Opens	November 27, 2023
Full Proposal Submission Closes	February 5, 2024
Award Notifications	March 25, 2024
Project Start Date	July 1, 2024

2.0 PROGRAM DESCRIPTION

SURPASS will provide ***cross-divisional teams*** funding to support up to 5 projects for investment for projects that have the potential to lead to upwards of \$100 million in external funding. Priority will be given to projects that offer impactful translational research and propose a viable path toward translation. The initial award period will be 18 months with possible extension to a multi-year performance period. Successful projects will be eligible for additional investment by SURPASS and other JHU programs following the primary period of performance. These select projects will be eligible to apply for another round of funding. The goal of this investment is not only to develop revolutionary new technology, but also to build interdivisional teams, facilitate collaboration, and increase joint staff/faculty appointments. SURPASS will break the mold for the way university divisions work together. Additional information on the SURPASS program is available at: <https://surpass.jhu.edu/>

3.0 PROPOSALS AND SELECTION

Proposed research projects for SURPASS will be considered and evaluated in a gated, two phase proposal process. In Phase I, proposers are requested to submit a whitepaper outlining their project, which will be reviewed against criteria outlined below. A limited number of whitepaper submissions will be selected to move forward, and those teams will be invited to submit a full proposal for consideration as well as provide an oral presentation of their concept in Phase II.

Teams invited to proceed to the full proposal phase will be provided with additional resources to develop and refine their concept, including dedicated ideation and development sessions with technical facilitators; and modest funding to support labor efforts for staff requiring a charge number.

3.1 Program Scope

Proposals to this program will argue for addressing a compelling challenge and present a vision for solutions to that challenge. These challenges are not bounded to any specific field of research or impact, so proposals in any research area of relevance to WSE and APL are encouraged.

3.2 Period of Performance

Projects submitted should be for an 18-month period of performance, based on the award notification and project start dates provided in Section 1.0.

3.3 Proposer Eligibility

Each team must have at least one PI with an appointment in APL and at least one PI with a primary appointment in a WSE Department. Anyone at APL can propose a whitepaper idea but is strongly encouraged to discuss their idea with applicable Program Managers before submission. WSE faculty with a *primary faculty appointment (i.e., TT-faculty research/teaching professor, research engineer/ scientist, etc.) in a WSE Department may apply as PI. Faculty members who hold primary appointments in the Department of Biomedical Engineering and the Department of Environmental Health and Engineering are also eligible.

****Note: Secondary faculty appointment or affiliation with a WSE Department is not eligible.***

U.S. citizenship, while not required, may be necessary for certain proposals and will be considered on a case-by-case basis.

3.4 Publication of Research Results

Broad publication of research results under this program is fully encouraged. Publications with APL authors or co-authors will be reviewed by the standard APL process prior to release.

3.5 Restricted Research Elements

Proposals for restricted research topics (Controlled Unclassified Information, Controlled Defense Information, Export Controlled data) will be considered for funding, provided sufficient collaboration can

be accommodated between both organizations. An alternate submission process will be provided for restricted submissions compliant with APL security requirements. Please contact SURPASS representatives as soon as possible to make proper arrangement for submission and for access to qualified file sharing and collaboration tools if needed during proposal development. SURPASS staff can be reached at surpass@jhu.edu.

.0 WHITEPAPER PROPOSAL SUBMISSION PROCESS

Submissions for SURPASS whitepaper proposals should be submitted via webform, at the following address: https://johnshopkinsuniversity-prsgv.formstack.com/forms/surpass_white_paper_submission. Submissions are due no later than 5:00 PM Eastern Time on October 30, 2023. Section 4.2 below outlines the review criteria which will be used in the selection of concepts to move forward to the full proposal submission. Section 4.3 outlines the structure and information required to submit with the proposal.

In addition to the proposal content required in the web form, a biosketch or CV is required for each PI and Key Personnel, and can be uploaded as a file attachment to the webform. Please use PDF format for these attachments.

Either PI may submit the proposal via the webform, but both PI's must sign the [SURPASS Principal Investigator Signature Page document](#), available for download from the URL provided above.

.1 Budget Requirements:

Rough Order of Magnitude (ROM) budgets must be submitted with proposals, and should cover three broad categories: APL Research Expenditures, WSE Research Expenditures, Equipment and Materials.

- APL Research Expenditures: JHU/APL labor, materials, other direct costs/equipment, travel, subcontractor costs
- WSE Research Expenditures: JHU/WSE labor, supplies, equipment, travel, subaward expenses
- Equipment and Supplies/Materials: If the total cost of Supplies (WSE)/Materials (APL) and Equipment/Other Direct Costs exceeds 20% of the total cost, please mark the applicable box in the submission. If you select yes, please include an estimate for each APL & WSE in the space provided and brief description of the supplies/materials and equipment/other direct costs.

While there is no minimum or maximum budget limitation at this point, be advised that the total budget allocation for the SURPASS Program is \$3.75M over 18 months, and the total portfolio of projects awarded will be within this cap.

4.1.1 WSE budget considerations

For development of WSE whitepaper ROM budgets for SURPASS, PI's should use the full on-campus research F&A rates for labor and appropriate direct expenses. Additionally, this whitepaper ROM does not need to be submitted to JHURA for review via COEUS. At this stage, a budget narrative is not required.

4.1.2 APL budget considerations

APL staff who are planning to submit a proposal should assume contract rates with 6.5% fee for all costs, and should fully burden all expenses. The APL Ad-Hoc estimator should be used to calculate budget. Please contact your local financial manager if you need assistance with the budget. Contact Genna.Marr@jhuapl.edu for a budget review prior to submitting estimates to the SURPASS site. Please copy Angela.Jones@jhuapl.edu for awareness and submission tracking. It is best that budget reviews are submitted no later than October 25, 2023. Task orders under this task will be passed under master

agreement JHU SURPASS BOA No. JAWS 38709 (JH87). Please contact surpass@jhu.edu to request a copy of the most recent MCA.

4.2 Review Criteria

Proposals will be reviewed by a selection team of WSE, APL and independent subject matter experts, and graded against the following criteria:

Criteria 1: Game-changing impact. To what degree does this research set the foundation for transformative impact in the field? How will the research position JHU as a global leader?

Criteria 2: Innovativeness. How might this lead to defining innovation in the next decade? What elements are truly disruptive?

Criteria 3: Technical Challenge. What is the novel foundation on which the research will be based? What are the greatest technical challenges that have to be overcome?

Criteria 4: Collaboration. How does the project leverage the strengths of each collaborator? How will the project progress from basic research to a prototype?

Criteria 5: Future funding. How will the research ultimately be sustained through external funding? How does research align with current and anticipated government and commercial needs? What level of future funding can be imagined if future efforts are to be undertaken at scale?

4.3 Webform Submission Requirements

The proposal submission form contains the following required elements. Please note that in each case there is a character limit that must be adhered to in the submission.

Team and Project Intake

- Title (60 characters)
- Team Members
- Keywords (5 word maximum)
- Abstract (1000 characters)

Section 1. Vision and Impact (2500 characters)

Addresses Criteria: 1, 2

Describe the challenge being addressed, the solution envisioned, and impact it will have on the field, technology and/or community effected.

- How does this approach set the stage for foundational impact on the field?

Section 2. Technical Approach (5000 characters)

Addresses Criteria: 2, 3, 4

Describe the technical approach of the proposed research program.

- To what extent does it introduce new or improve on current capabilities in the field?

Section 3. Expected Accomplishments (1000 characters)

Addresses Criteria: 3

Describe the specific accomplishments your team expects to achieve over the course of the program (18 months).

Section 4. Collaboration Plan (2000 characters)

Addresses Criteria: 4

Identify which elements of the proposed work will be conducted by each team member.

- How does the project play to the specific strengths of each collaborator?
- How does the research program integrate fundamental and applied research elements together to address the challenge?
- Does the project set the stage for system prototypes and eventual translation out of the research environment and into the world at large?

Section 5. Research Growth Opportunities (2000 characters)

Addresses Criteria: 5

Describe your team's vision for prospective follow-on research sponsors.

- Does this research align with known or expected USGOV research needs? Commercial sector needs? International needs?

Section 6. ROM Budget

4.4 Collaborative Disclosure Guidance

Any brainstorming discussions for SURPASS between APL staff and WSE faculty are protected under a master collaboration agreement (MCA, #JAWS 38709) in order to facilitate an open, productive environment. Contact your WSE or JHU collaborators before disclosing any ideas generated during these discussions. Please feel free to reach out to surpass@jhu.edu for additional guidance or for a copy of the MCA.