

February 1, 2022

**The Paul G. Allen Frontiers Group
Letters of Intent (LOI)
Allen Distinguished Investigator (ADI) Program
Nutrient Sensing – 2022**

LOI release date: February 1, 2022
LOI submission deadline: March 1, 2022

Purpose

We request letters of intent for Allen Distinguished Investigator proposals for the development of new technologies to sense nutrient levels within cells. There will be up to four awards made for up to \$5M in total research funding (no indirect costs supported). Awards will be \$1,250,000 for 3 years, at the rate of up to \$500,000 per year.

Topic Details

Nutrients—from metabolites to chemical compounds such as oxygen or carbon dioxide—are substances necessary for an organism's life and health. While current approaches can measure nutrient levels by pooling data from tens of thousands of cells, tools and techniques to quantitatively image nutrients within living cells are limited and limiting. The complex and varied behavior of organelles and specialized cell structures is underexplored in part because the technology needed for such research is lacking. Advancing visualization of cell and organelle metabolism and signaling could lead to breakthroughs in mechanistic understanding in cell biology and a diverse array of other fields such as neuroscience, immunology, cancer biology.

We seek LOIs for development of technology to sense and/or visualize nutrients at the subcellular level. Projects of interest may include hardware, software, sensor and/or other tool building efforts. Projects to adapt existing technology to a new field or use are allowed. Technology focusing on *in vivo* analysis and/or analysis over time are preferred. Top LOIs would include both a compelling reason and test case for the technology, and have the potential for the technology to be more broadly impactful. Multidisciplinary teams (*e.g.*, consisting of biologists, chemists, engineers, computer scientists, *etc.*) are particularly welcome.

Program Goals

The Allen Distinguished Investigator program supports early-stage research with the potential to reinvent entire fields. The program seeks to have a lasting impact on the direction of research, aiming to serve as a catalyst upon which future research is founded. This program seeks to enable scientists to take risks with new ideas and approaches, and strongly believes in interdisciplinary approaches that allow scientists to look beyond their own disciplines, and to explore approaches with colleagues in other disciplines in order to bring new perspectives to challenging problems where traditional approaches within a discipline may be 'stuck.' The program is especially interested in approaches that are unlikely to receive funding from traditional government sources, including methodological and technological advances that are often necessary complements to scientific advance and often difficult to fund through traditional sources. This program encourages and supports researchers including novel methodological, theoretical, and technological elements in their proposals.

Eligibility Requirements

US or international scientists associated with eligible research organizations and pursuing independent research (e.g., faculty or similar positions) are eligible to apply. Allen Institute employees, fellows or advisors are not eligible to apply during their tenure at the Allen Institute. Individuals, including project PIs, co-investigators, and collaborators, receiving support from the Paul G. Allen Family Foundation are not eligible to be part of applications while their award is active. No-cost extension periods are part of active awards. Collaborative teams are welcome; all team members must be associated with eligible research organizations. Eligible research organizations are nonprofit institutions with current 501(c)(3) Public Charity status from the Internal Revenue Service (IRS), non-federal government entities, IRS-recognized tribes, and other organizations that conduct charitable activities. Applicants may not be private foundations as defined in Section 509(a) of the Internal Revenue Code. We ask that, if awarded, the leader commit a minimum of 20% effort to the ADI research activities. We believe that diverse perspectives are vital to science. We encourage researchers from across career stages, who are members of underrepresented groups, and/or who have followed less-traditional career paths to apply.

LOI Format

Submissions consist of the following information:

- a) PIs and contact information
- b) Project description

Contact information including the LOI title, names of PIs, potential collaborators, and institutions is collected via the submission portal (see LOI Submission below). Contact information is not shared with reviewers.

Project descriptions are reviewed in a double-blind method: identifying information related to PIs, potential collaborators, and institutions is not shared with reviewers; and reviewer identities and affiliations are not shared with submitters. Please ensure that the LOI title submitted with the contact information is identical to the LOI title on the project description. **Do not include identifying information such as names of PIs, collaborators, or institutions in project descriptions.**

We recommend that submitters use our template when preparing their project description.

Project descriptions for this topic should answer three questions:

- 1) What is(are) the nutrient(s) that your technology or experiments will analyze?
- 2) How will you develop and test your technology or hypothesis?
- 3) How will your technology or findings be impactful beyond the test conditions that you are proposing?

We request that all project descriptions be in English on 8 ½ x 11-inch paper size, using Arial, 11-point font, single spaced, with 1-inch margins top, bottom, left, and right. The page limit for project descriptions is 1 page. Up to five references are allowed; references are not included in the page limit of the project description. Up to one figure is permitted and not included in the 1-page limit. Please place references and figure, if any, at the end of the project description.

LOI Submission

LOIs are due by **11:59am PST on March 1, 2022**, and should be submitted by upload [here](#).

The project description must be submitted as a **single PDF** file. The filename should **not** include identifying information. For the filename, we recommend using a shortened version of the project title followed by `_2022ADINutriSens_LOI.pdf`

Questions

Answers to frequently asked questions can be found [here](#). Questions not on this list may be submitted to alexandra.basford@alleninstitute.org. Please use “2022 Nutrient Sensing Question” as the email subject.

We try to respond to all emails, but may not be able to due to the volume of questions received. Please note that LOI questions submitted after 11:59pm PST on February 23, 2022, are unlikely to be answered.

Application Key Dates

Letter of Intent Due	March 1, 2022
Notification of LOI Outcome	by May 2, 2022*
Full Proposal Deadline	June 15, 2022*
Finalist Interviews	August 2022*
Notification of Award	September 2022*
Award Start	November 2022*

*Tentative date

Selection Process

Up to 25 LOIs will be invited to submit full proposals for consideration. Up to eight of the submitted proposals will be selected for finalist interviews, which will be held by videoconference. Up to four awards will be made.

LOIs and proposals are confidentially reviewed by a panel of experts tailored for the topic, and this panel will make recommendations to The Paul G. Allen Frontiers Group, a division of the Allen Institute, which acts as the Paul G. Allen Family Foundation’s agent and subject matter expert, provides counsel, and supports the administration of the awards. The Paul G. Allen Family Foundation has the final decision on the award.

Members of the panel of experts and any advisors serve anonymously. Their identities as well as correspondence, evaluations and deliberations are kept confidential. This policy enables advisors and evaluators to provide their honest impressions independent of outside influence. Past awardees may be asked to act as future evaluators and advisors.