



REQUEST FOR APPLICATIONS

Visual Proteomics Imaging

The Chan Zuckerberg Initiative invites applications for challenge grants in the field of Visual Proteomics. This Request for Applications (RFA) aims to advance technology directed at the goal of obtaining near-atomic resolution readouts inside the cell.

OPPORTUNITY

Overview

The Chan Zuckerberg Initiative (CZI) seeks to support 2.5-year challenge grants in the field of visual proteomics. The ability to view protein molecules in cells and monitor changes in their structure, quantity, distribution, and interactions is key to understanding what causes diseases and finding treatments and cures. This grant program will advance technology development for the field of visual proteomics and aim to obtain near-atomic resolution readouts inside the cell. The funding mechanism will be targeted investments in the form of challenge grants with specified proof-of-concept milestones.

Scientific Scope

The long-term goal of this RFA, part of CZI's Frontiers of Imaging effort, is to drive technology development aimed at visualizing proteins and their interactions inside the cell. This funding opportunity is explicitly aimed at technology development. It is not intended to support question-driven basic or translational research, clinical trials, or drug development. Preliminary data is encouraged but not required.

Examples of research themes:

- Hardware and software development to enhance contrast and resolution for electron tomography, high-resolution correlated light and electron microscopy (CLEM), and FIB-SEM.
- Sample preparation improvements for electron tomography, or high-resolution correlated light and electron microscopy (CLEM) approaches, and FIB-SEM.
- Software development or development of new computational techniques and algorithms for identifying protein molecules inside cells or segmenting cellular sub-structures.

We particularly encourage applications from:

- Researchers in disciplines outside of biomedicine who bring new technology, resources, or frameworks to studying proteins and their interactions inside of cells;
- Women, underrepresented minorities, and members of underserved populations; and
- Early-career investigators, defined as principal investigators who have been in an independent faculty role for less than six years at the time of application, i.e. starting after their first position after February 2015.

Desired Outcomes

Successful outcomes for this RFA could include:

- Development of hardware and software that will enhance contrast and resolution;
- Development of hardware, software, or methods that will improve sample preparation; and
- Development of new computational techniques and algorithms for identifying protein molecules inside cells.

Collaboration and Open Science

CZI seeks investigators who will contribute to a collaborative interdisciplinary network and the advancement of the visual proteomics field.

- Investigators and members of their labs will participate in annual meetings of all funded groups, smaller meetings focused on specific biological or technical topics, and regular webinars.
- Investigators and CZI staff will work together to identify resources and technology that can drive the imaging field forward.
- Investigators will commit to rapid dissemination of all resulting data, protocols, code, reagents, and results prior to publication through resources such as protocols.io, GitHub, Addgene, and preprints. Please see the Policies section for additional details.

ELIGIBILITY

- Applications may be submitted by non-profit and for-profit organizations, public and private institutions, such as colleges, universities, hospitals, laboratories, units of state and local government, companies, and eligible agencies of the federal government. As part of the application process, for-profit organizations may need to provide additional information on the charitable purposes of the proposal. Grants are not permitted to individuals, only to organizations.
- Organizations may be based in any country.
- Each application should designate one principal investigator (PI) as the Coordinating Principal Investigator (Coordinating PI). The Coordinating PI will act as the administrative contact between CZI and all PIs on the grant (Co-PIs). The Coordinating PI must submit the application on behalf of all PIs. The Coordinating PI must be affiliated with the institution submitting the application, and grant funds will be awarded to that institution,

which will take responsibility for distributing funds to any other institutions. Note that institutions outside the U.S. may not subcontract to U.S. institutions, so please be mindful when selecting the Coordinating PI/institution.

- Each application should have a minimum of one PI, but may designate up to three total PIs (one Coordinating PI and up to two Co-PIs).
- PIs may only serve as the Coordinating PI on one application, but may serve as a Co-PI on applications different from the one they submitted.
- Co-PIs may serve as a Co-PI on multiple applications.
- PIs/Co-PIs on one application may be employed at the same or at different institutions.
- PIs and Co-PIs must hold a PhD, MD, or equivalent degree.
- PIs and Co-PIs must each run laboratories in which they control their budget, their space, and their research. Independence in an academic setting is typically demonstrated by a full-time faculty appointment, a tenure-track position, allocated space, a start-up package, and institutional commitment as defined or verified in a letter from a department chair or equivalent. Independence may be defined differently in other organizations. *Note: an upload of the letter or proof of independence is not required at the time of application.*
- CZI encourages applications from underrepresented minorities, women, and early-career scientists.
- All grants will be made in compliance with the US Treasury Department's Office of Foreign Asset Control (OFAC) program. For additional information regarding OFAC sanctions, please refer to the [U.S. Treasury Department's resources](#).
- Facebook employees, including employees of any subsidiary Facebook entities, are not permitted to apply.
- CZI reserves the sole right to decide if an applicant and applicant organization meet the eligibility requirements.
- CZI reserves the right to request budget changes upon award.

CZI suggests that you consult your home institution to determine eligibility to apply for this grant and your institutional policy on indirect costs. For questions about eligibility for this award or the application process, please contact us in advance of the proposal deadline at sciencegrants@chanzuckerberg.com. Deadline extensions will not be granted.

APPLICATION REQUIREMENTS

Key Dates

December 2, 2020	Application portal opens
February 17, 2021	Applications due by 5 p.m. Pacific Time (PT)
May 2021	Earliest notification of decisions (subject to change)
August 1, 2021	Earliest start date (subject to change)

Award period and start date: Awards will be 2.5 years (30 months) in duration with a start date of no earlier than August 1, 2021. Actual start date may vary.

Budget limits: Because hardware, software, and protocol development projects that may be supported by this RFA likely require different resourcing levels, a budget limit has not been set

on a per project basis. Proposed budgets should reflect the project scope. Indirect costs cannot exceed 15% of direct costs.

Application Specifics: All applications must be completed and submitted through CZI's online grants management portal at <https://apply.chanzuckerberg.com>. It is recommended that applicants familiarize themselves with this portal well in advance of the application deadline. Detailed application instructions are available on the [Chan Zuckerberg Initiative website](#), as well as in the [grants management portal](#).

SELECTION PROCESS

The Chan Zuckerberg Initiative's core values center around people, technology, collaboration, and open science. We adhere to those values in both proposal selection and evaluation of progress.

CZI will evaluate all applications for scientific merit through independent expert review. Final decisions will be made by CZI staff in consultation with our scientific advisors. There is no expectation of any specific number of awards, and the Chan Zuckerberg Initiative reserves the sole right to not recommend the funding of any applications. CZI does not provide feedback on decisions for unfunded proposals.

Selection of awardees will be based on:

- The quality of the proposal, and the expertise and capacity of the group for addressing the proposed project.
- Significance and potential impact of the project.
- Potential of the awardee to contribute to and benefit from a collaborative interdisciplinary network.

POLICIES

- Funds from this award are intended to support research activities. Grants are made to institutions on behalf of the named award recipients, and reasonable flexibility on how these funds are utilized is allowed, provided that funds are used to support research activities related to the project. A detailed budget is required.
- For awarded projects, financial statements and progress reports will be due at the conclusion of each grant year. Specific deliverable requirements will be outlined in the award notification. Grantees of funded projects will be required to participate in regular meetings, including annual scientist meetings. Travel support for these meetings will be provided by CZI separately from the requested grant funds.
- Grantees may obtain funds for their research from other funding sources, provided that there is no conflict with meeting the terms of the CZI award.
- Unused research funds may be carried over to the following year, and requests for no-cost extensions will be considered.
- Indirect costs cannot exceed 15% of direct costs. Indirect costs may not be assessed on capital equipment or subcontracts, but subcontractors may include up to 15% indirect costs of their direct costs.
- International grantees must use all grant funds exclusively for activities conducted outside the United States of America.

- **Ethical conduct:** CZI advocates the highest standards for the ethical conduct of research. In addition to requirements of their own countries, grantees should adopt procedures for the use of animals in research and for the ethical treatment of human subjects and tissue donors, including obtaining their written informed consent. CZI regards the policies of the National Institutes of Health as a strong model for such procedures.
- **Data, publication, and dissemination policies:** To accelerate scientific discovery and collaboration, CZI supports a consent, sharing, and publication policy for open and rapid dissemination of proposal results, including methods, data and reagents, and a policy for software development that maximizes accessibility, reuse, and shared development. Under rare circumstances, exceptions to the above may be considered where there are specific situations that make meeting these goals impossible or counterproductive to the project.
 - **Software code:** CZI requires sharing of software code developed by its grantees generally to be made publicly available on GitHub (or a similar public service). All new code must be released under a permissive open source license (MIT, BSD 2-Clause, BSD 3-Clause, or Apache v2.0). All pre-existing and derivative code should be licensed under the most permissive license possible, given the licensing terms of the pre-existing code. All analysis packages must be released through the appropriate language-specific package manager (e.g., PyPi for Python, Bioconductor and CRAN for R) with documentation, example data, and interactive demos (e.g., Jupyter notebooks), and the use of Docker or similar container technologies to ensure portability and reproducibility. Software code supported by CZI should be archived for [long-term digital preservation](#) and [citability](#), when applicable.
 - **Content and data sharing:** CZI is committed to developing and using platforms that disseminate data openly and freely. Any datasets either curated or generated through the proposal should be made publicly available and easily accessible through an appropriate [data repository](#), when applicable, under an [Open Definition conformant license](#). Ideally data sets would not include personally identifiable information, but if they do, consent to sharing the data should be obtained. Metadata, documentation, and intended use cases, as appropriate should be made available under an Open Definition conformant license, preferably CC0 or CC BY/CC BY SA for content that requires explicit attribution.
 - **Publications:** To encourage rapid dissemination of results, any publications related to this funded work must be submitted to a preprint server (such as bioRxiv, medRxiv, arXiv, or any appropriate preprint repository), at or before the first submission to a journal. Experimental protocols should be made publicly available through a protocol sharing service, such as protocols.io. CZI requests that scientific publications, preprints, and presentations that result from this award acknowledge support from this funding.
 - **Reagent sharing:** Resources and reagents developed with this funding support should be available for rapid dissemination to the community, where possible in an accessible community repository, such as Addgene (for plasmids/DNA reagents/viruses) and Jackson Labs (for model systems lines), etc. This

requirement applies to cell lines, transgenic organisms, plasmids/clones, antibodies, and other reagents.

- **Consent:** All human tissues should be adequately and fully consented to permit full sharing of the resulting data and any resulting tools, in accordance with laws and regulatory requirements. Any desired exceptions to this policy must be identified at the time of application, and such requests may affect the application's chance of success. We are aware that there may be circumstances where broad consent may be challenging, and in some cases consent may be subject to revocation; we encourage investigators to discuss these cases with CZI scientific staff.
- **Intellectual property rights:** CZI does not require assignment of ownership to any data, published results, or any other intellectual property that results from the work funded by these grants, but will have the same rights generally granted to others in the permissive licenses described above. CZI supports and promotes policies that enable results and technologies to have the broadest reach and impact. To this end, all newly developed software should be made available through permissive open source licenses as described more fully above. Other technology and intellectual property rights (such as patents) should be made freely available for all academic and non-commercial use, and where intellectual property rights are commercialized, they should generally be subject to non-exclusive commercial licenses that enable broad availability and dissemination.
- Applications selected through this process will either be funded by the Chan Zuckerberg Initiative Foundation (CZIF) or recommended for funding through the Chan Zuckerberg Initiative Donor-Advised Fund (DAF) at the Silicon Valley Community Foundation (SVCF).

CONFIDENTIALITY

All submitted applications will be kept confidential, except (1) as necessary for our evaluation or to comply with any applicable laws; and (2) to the extent that the application is made public or available to others without a duty of confidentiality through no fault of CZI. Notwithstanding, successfully funded proposals may be made publicly available and/or shared with other grantees or collaborators. Unfunded proposals will remain confidential as provided herein; however, information, including brief summaries of the proposed projects, project metrics, and the types of organizations that have applied for funding, may be made publicly available in aggregate form. Application materials will not be returned to applicants.

RFA CONTACT

For administrative and programmatic inquiries, technical assistance, or other questions pertaining to this RFA, please contact sciencegrants@chanzuckerberg.com.

IMPORTANT DOCUMENTS

[Application Instructions](#)

[Institutional Approval Form](#)